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The Competition Game *by David Dillon*

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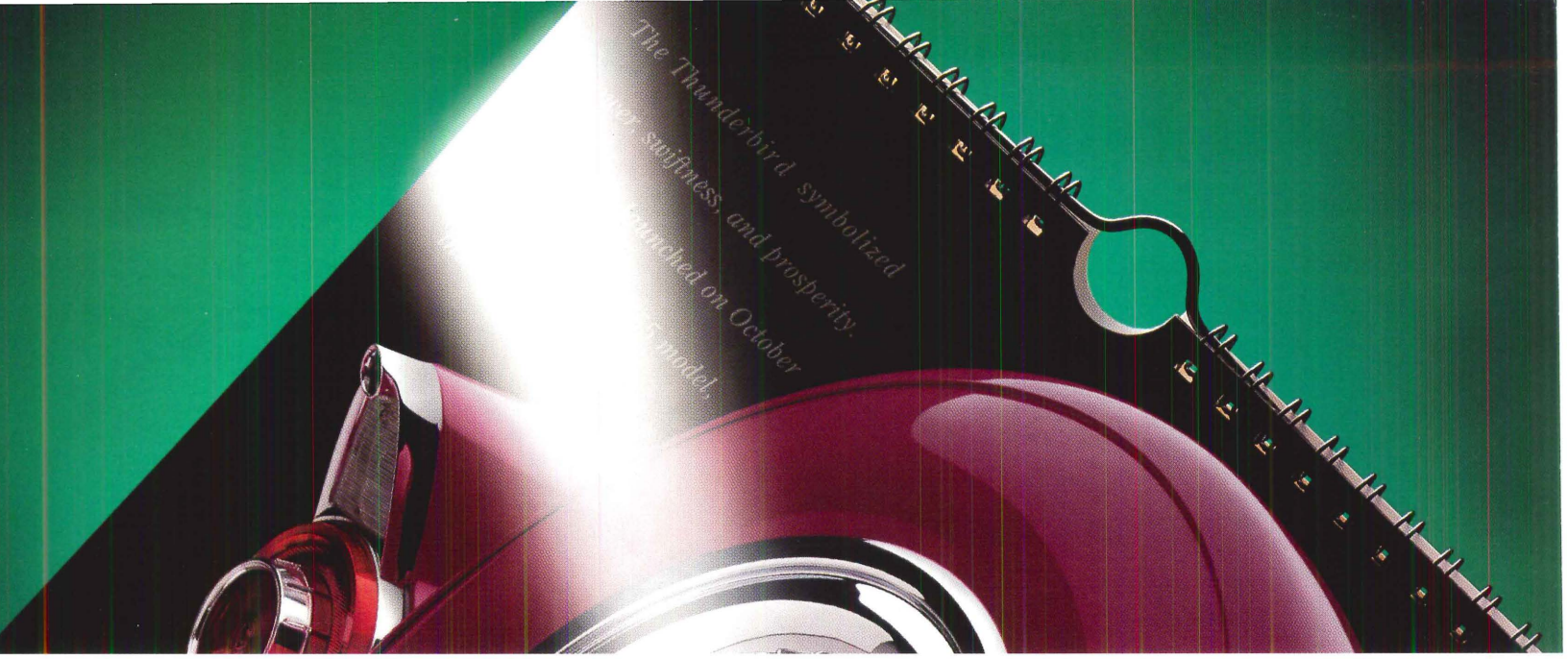
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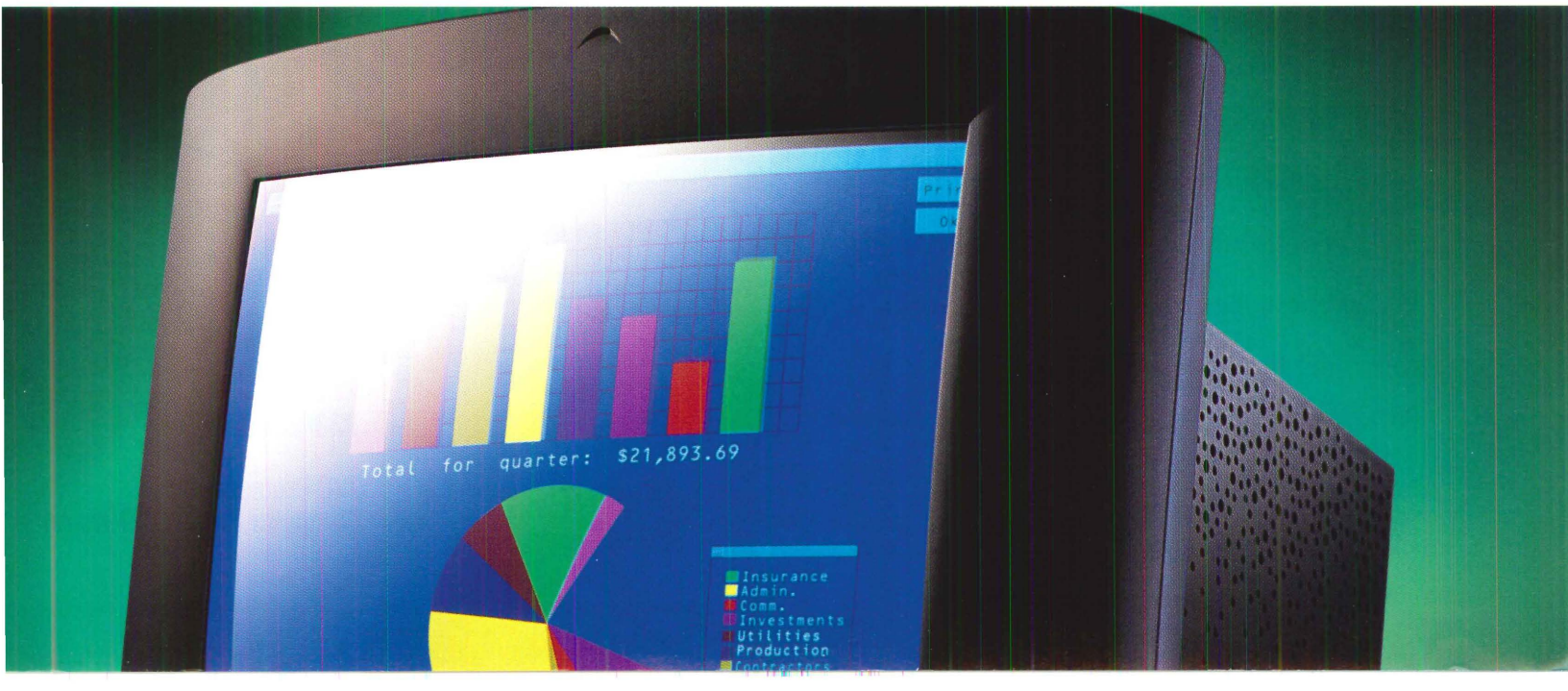
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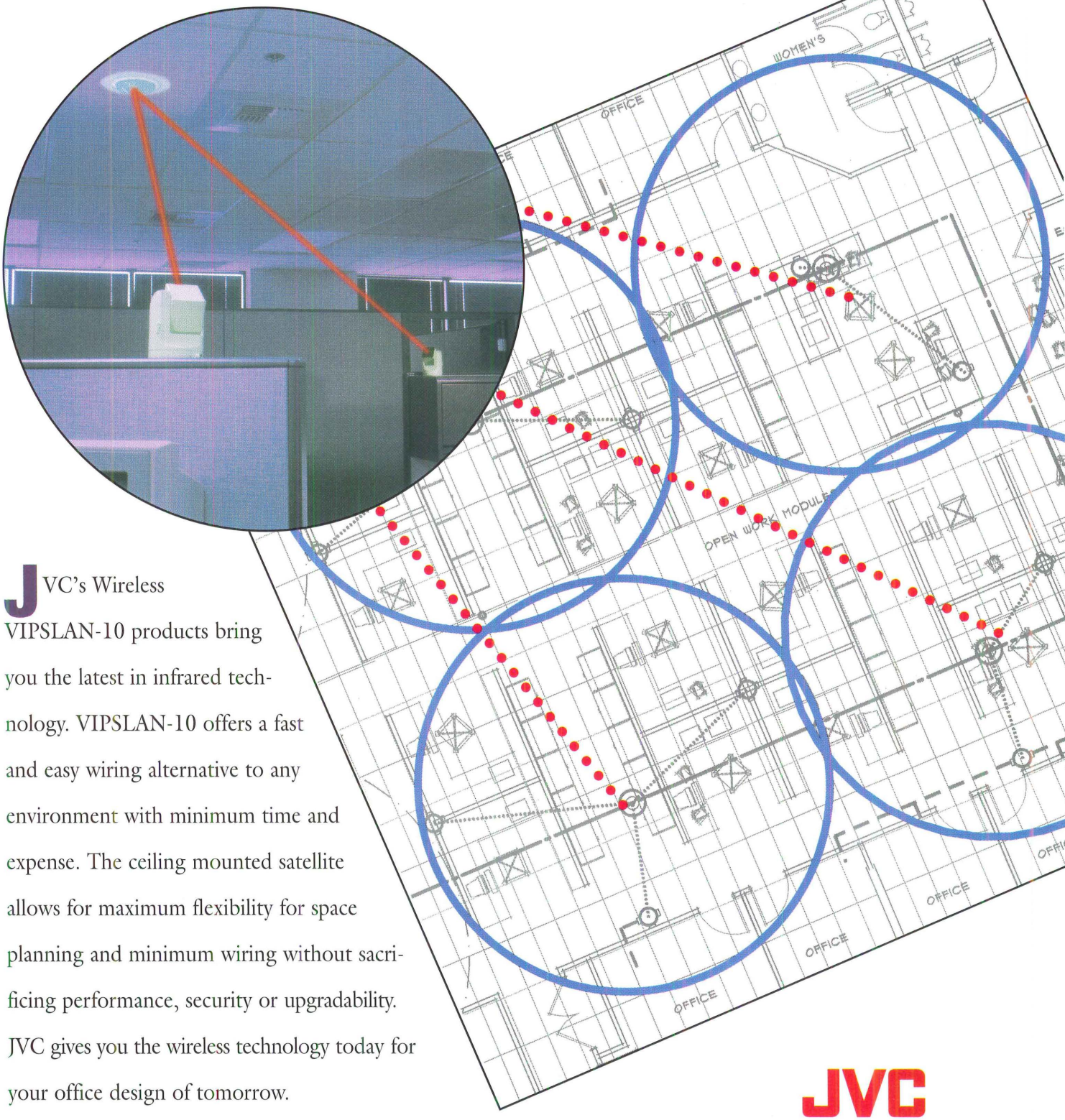
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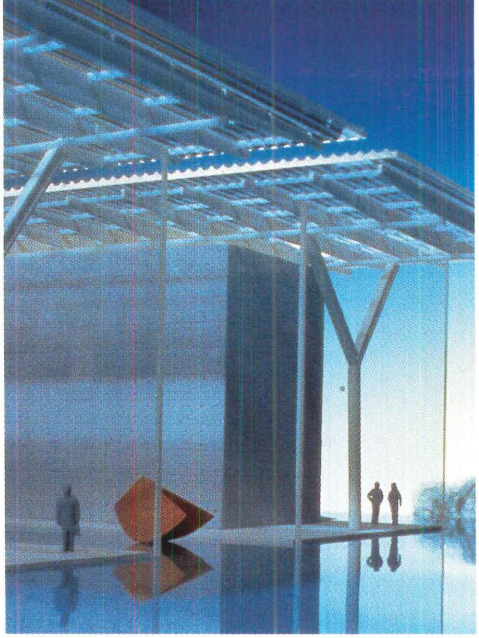
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Above: *Tadao Ando's competition entry for the Modern Art Museum of Fort Worth (see page 63). Photo courtesy the Modern Art Museum of Fort Worth.*

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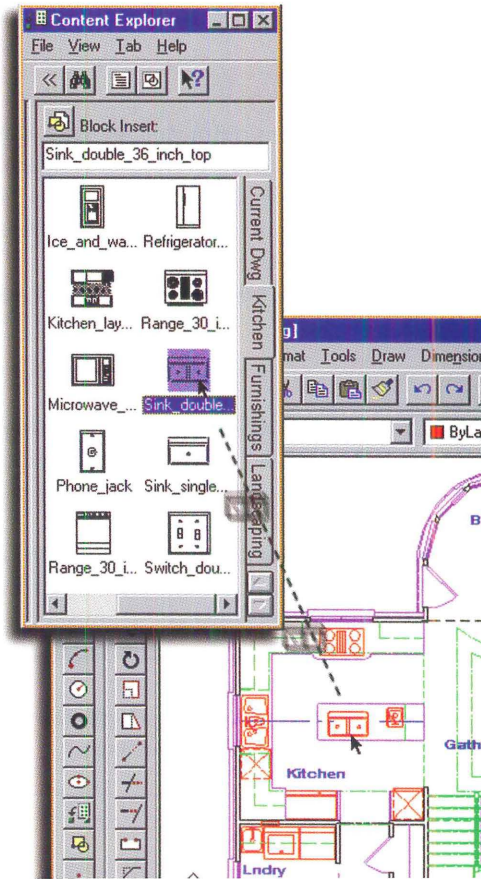
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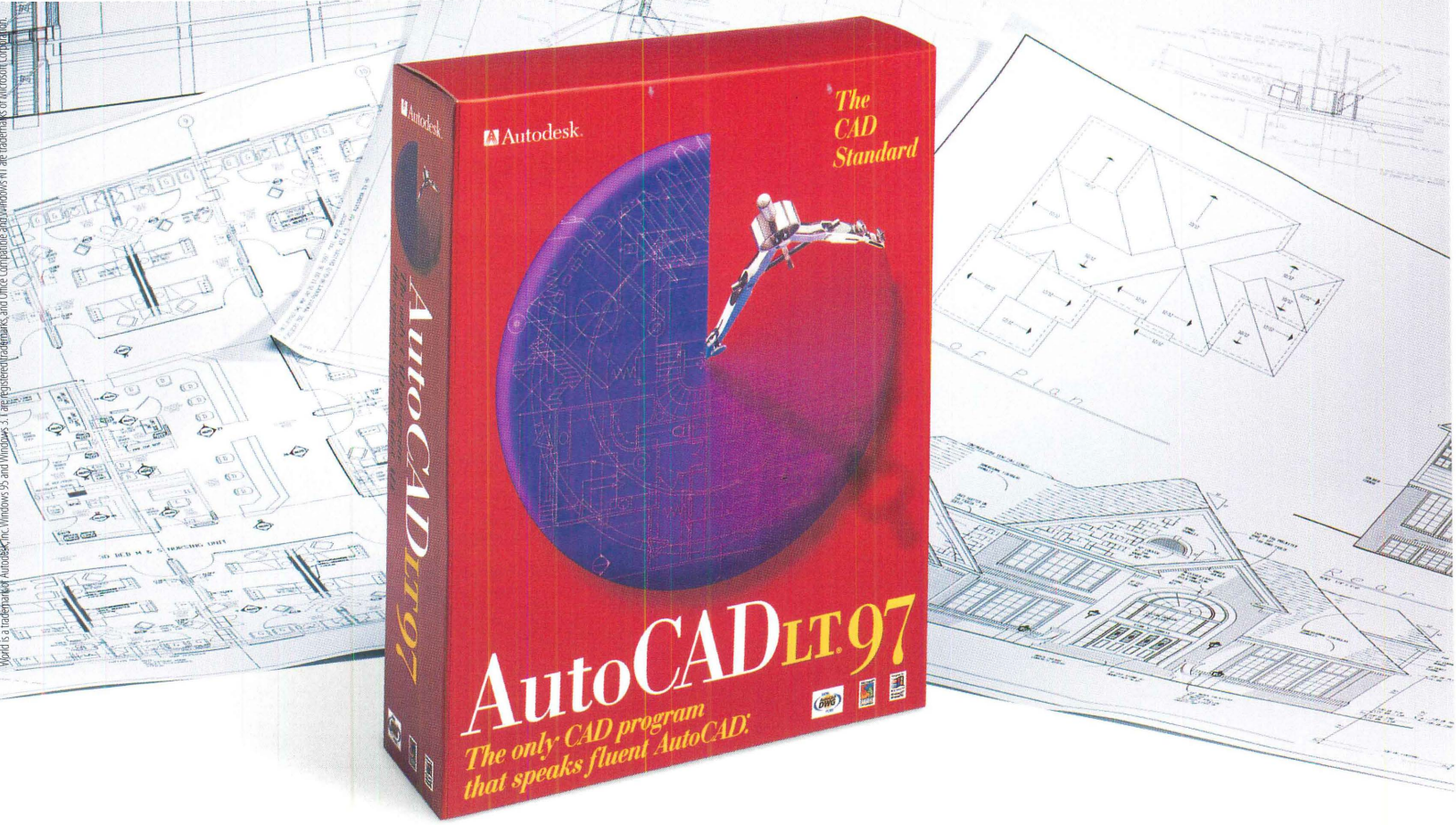
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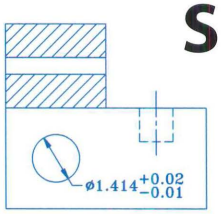
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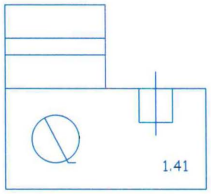
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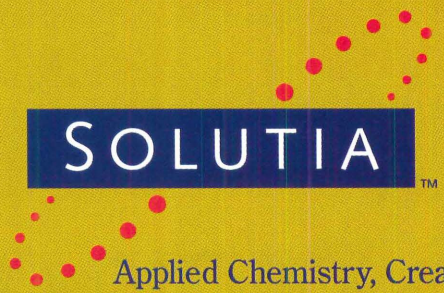
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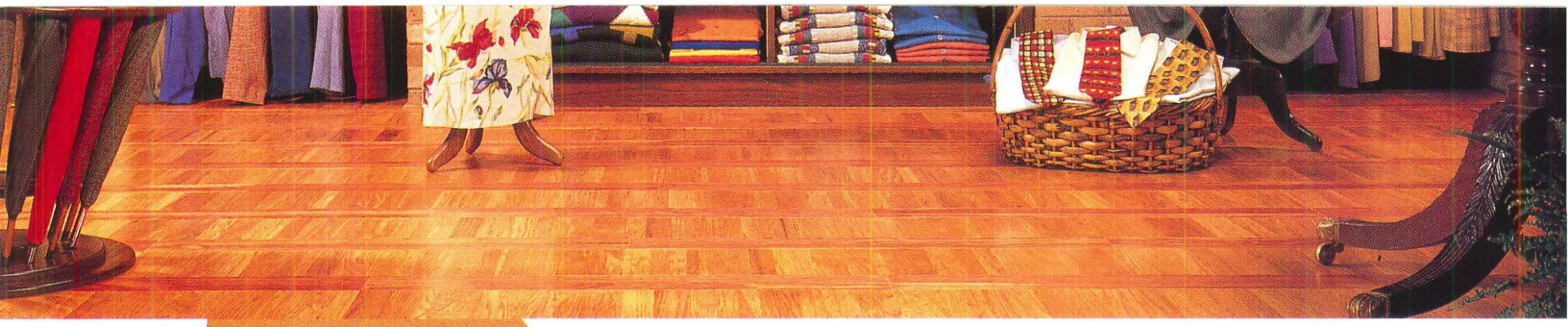
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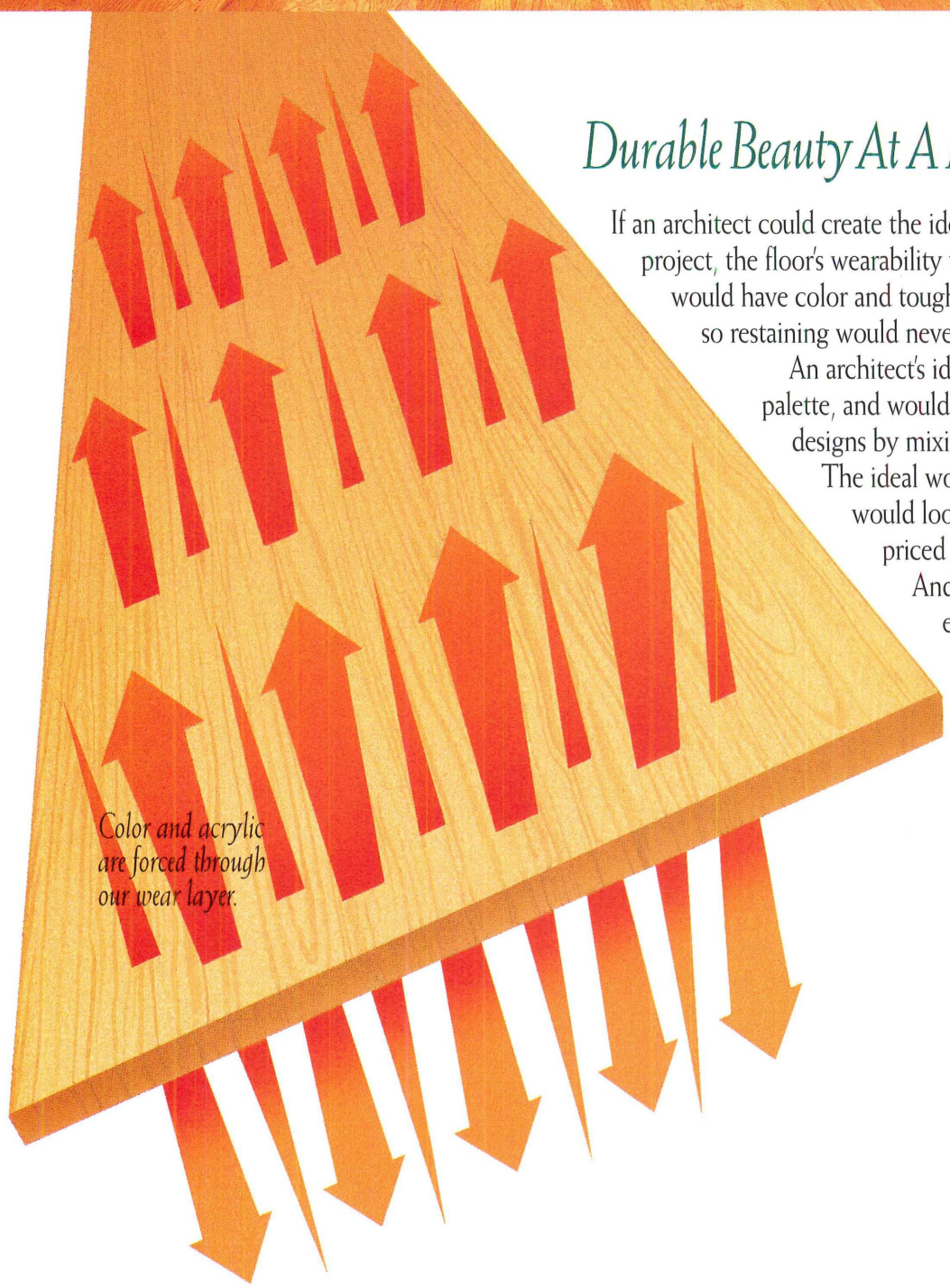


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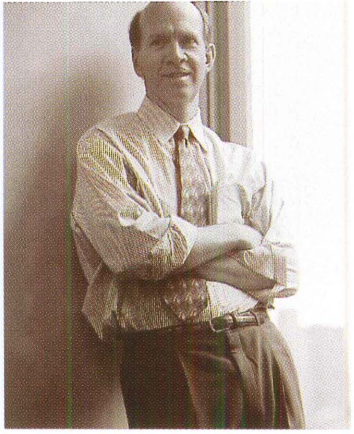
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EDITORIAL

A Tale of Two Hilltops

BY ROBERT A. IVY, FAIA

The view from the shining brow of the Getty Center embraces the entire Los Angeles arena, from the blue smear of the Pacific to the mountains. The center itself, in plan and execution, incorporates specific, critical issues and attitudes from this century's architecture, presenting an edited summary statement of the present moment, seen through Richard Meier's eyes.

Architecture can sometimes capture time, as it does here, with the certainty of an atomic clock. A trained eye can examine a site plan and read a culture's point of view toward the landscape; focusing on small details can expose a world of technological concerns. Perhaps it is a building's complexity, the sum of thousands of small decisions, that announces its age, or perhaps it is a fourth dimension, a silent voice speaking through the empirical evidence. Regardless of the cause, buildings tell us about their own time.

Comparisons only enrich the discussion. There is a dialogue taking place on two Southern California hilltops, not between individuals but between two significant museums. One was built at the beginning of this century; the other, at its conclusion.

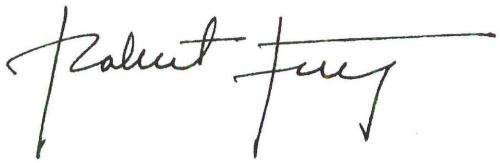
Noonday steam rises from the grassy lawns of the Huntington estate in San Marino, blurring the air. Individual neoclassical buildings stand isolated and inert, commanding vistas toward mountains or town. Marble statues placed at intervals along the primary axis recall Versailles. The grounds insist that the heirs of European civilization have reached the limit of the American West, imposing an order to the tangled scrubland.

As at the Getty, gates isolate the ensemble from the surrounding suburbs. Winding roads lead to a mausoleum-like library, its interior chambers dark and its walls fortress-thick, where Henry Huntington, the railroad magnate and a major developer of Southern California, maintained an incomparable collection of books and manuscripts. But today his home, a 1909 Beaux Arts palace sitting nearby, feels oddly sterile to the contemporary taste, an expression of power when the lights have gone out.

The Getty Center shares many of the Huntington's motives, yet varies in its outcome. Both were the by-products of vast fortunes and both reflect an American fascination with wealth. Both employ European planning ideals, combining white buildings, sculpture, and water in the hillside landscape; both contain treasuries of European art. While both were intended for limited access, they engage a range of uses and users, from scholars to casual visitors, many of whom simply come to soak up the ambience.

But the Getty's solution, rather than imposed, seems engaged with its hillside. The Getty's site plan, indeed its internal order, creates sequence and pathways, an architecture intended as much for human experience as for formal observation. The center's precisely gridded buildings, from travertine base to metal and glass walls, maintain a consistent, internal order in which no single structure dominates or screams for attention. Instead, the center invites rambling, offering transitions from dark to light, from inside to outside, rather than viewing from afar. Additionally, there is a civic dimension to the plazas and porches that reflects contemporary social mores: the Getty offers interaction and comfort amid the Rembrandts.

It is a sensibility as much as any single building that dominates the hilltop, a time-specific Modernism drawn both from precedent and from this moment. Situated only a few miles apart but at opposite ends of "The American Century," related yet remote, the two museums comment on their makers and users and almost a hundred years between. Meanwhile, the architecture of the future hovers over Los Angeles in an egalitarian, multicultural smog, working itself out to strong new rhythms for another day.





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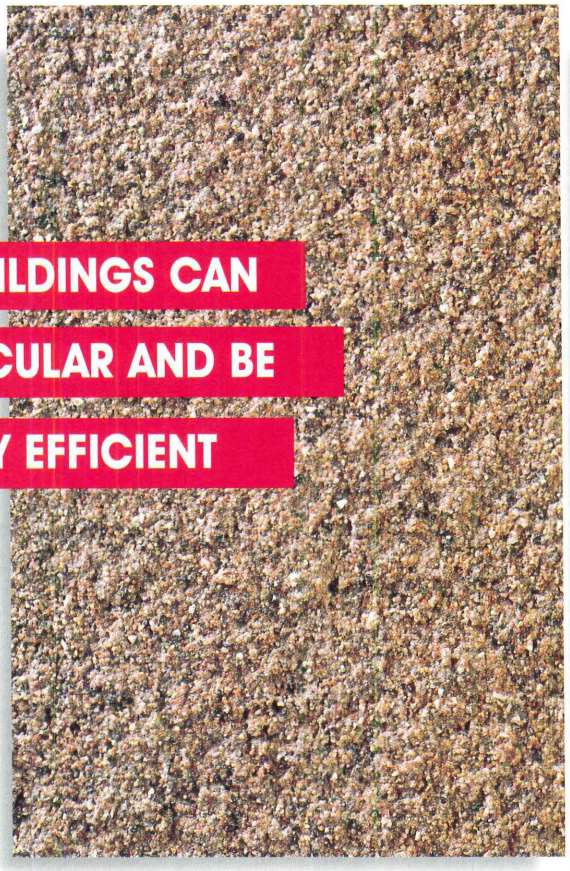
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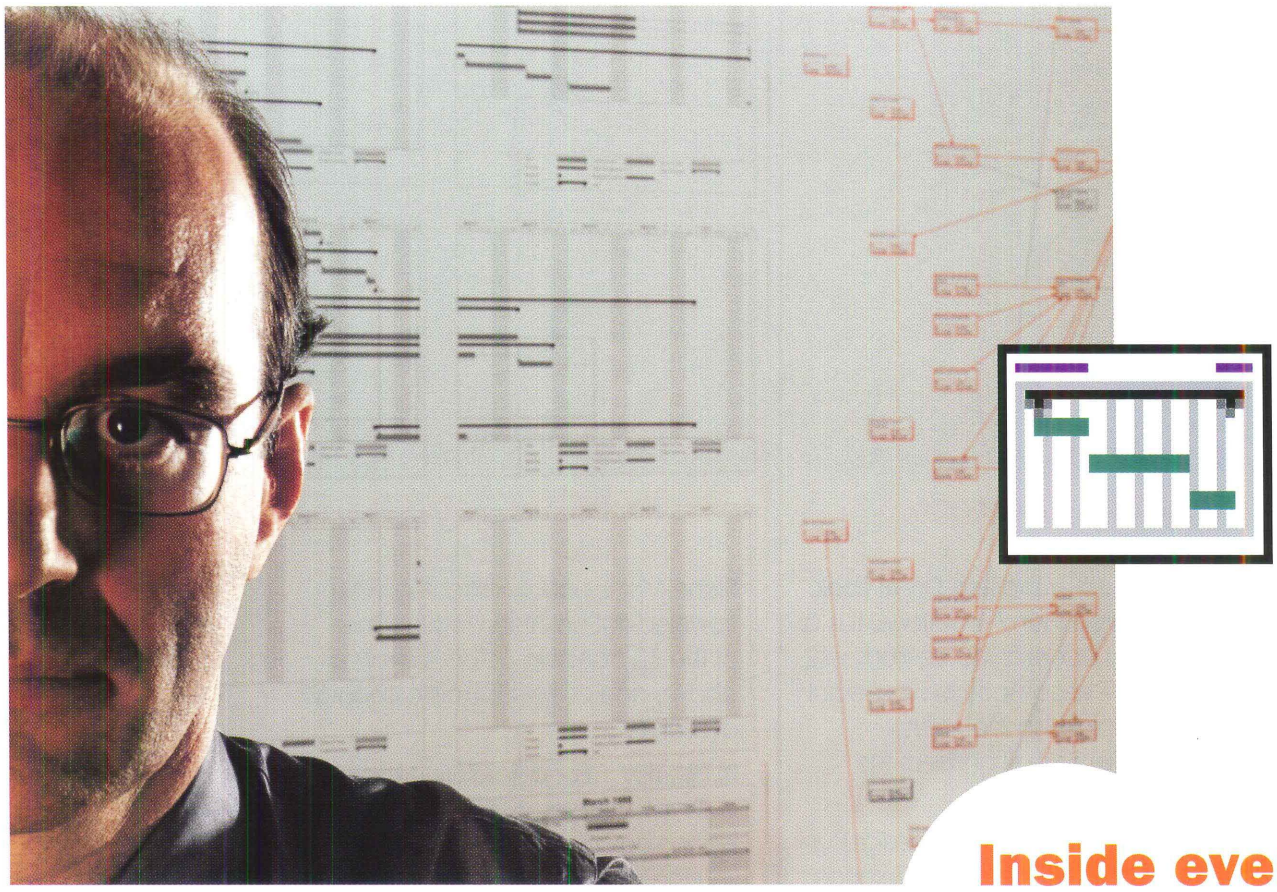
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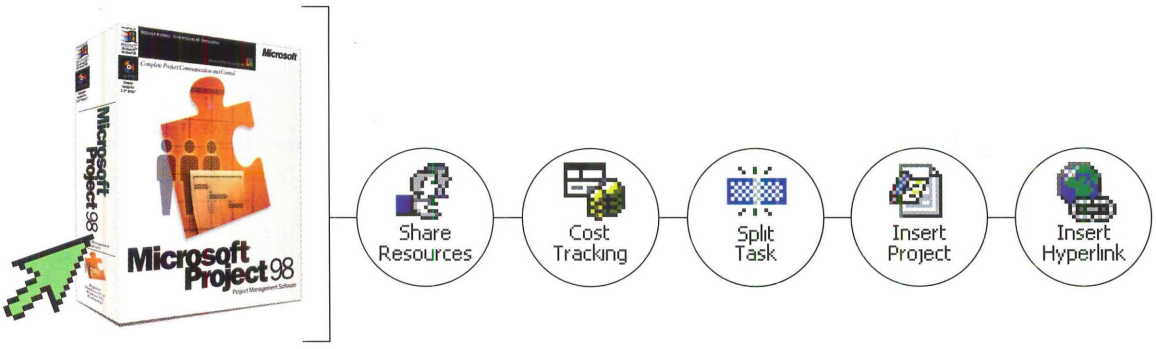
CIRCLE 7 ON INQUIRY CARD



Inside ever

details

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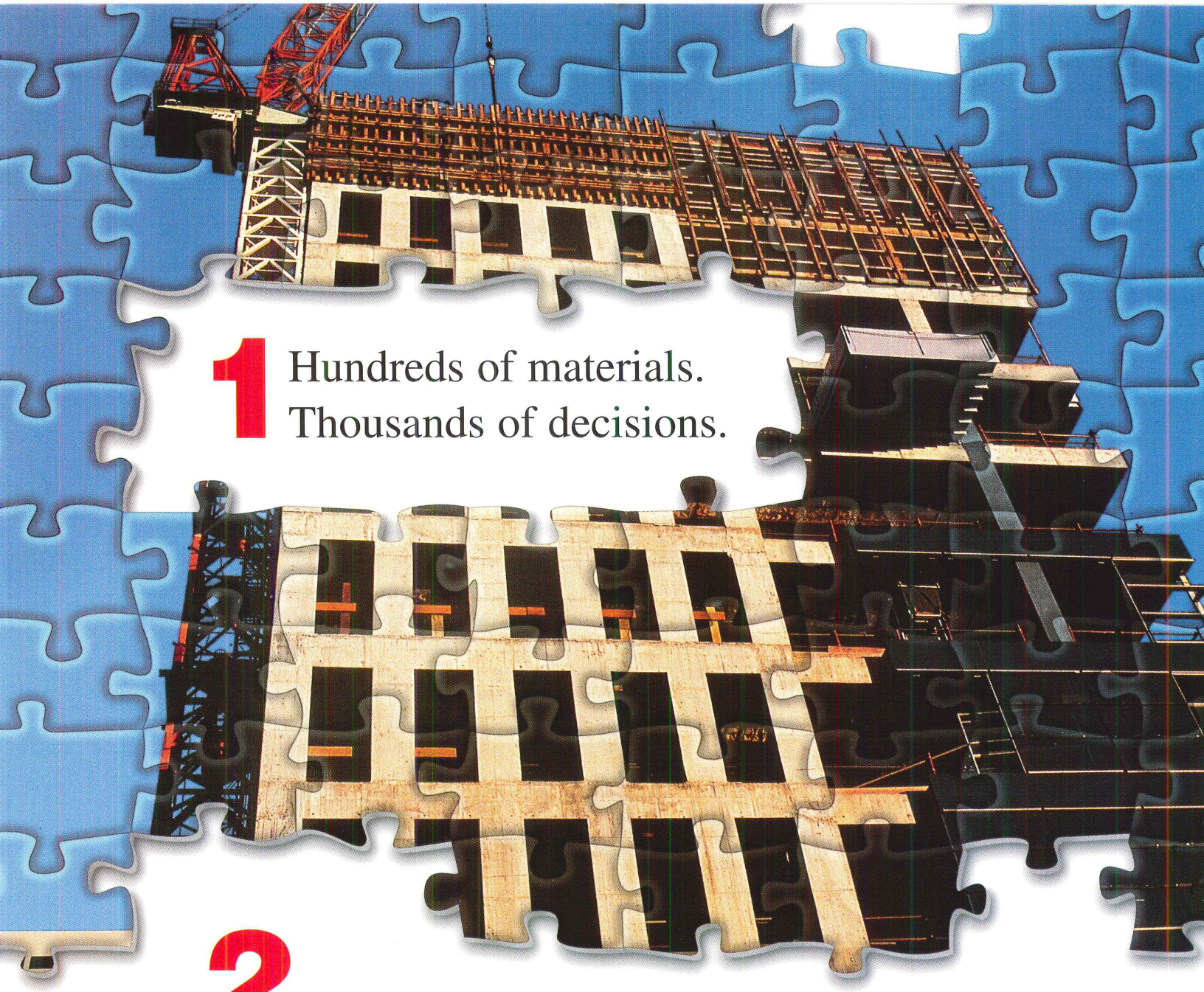


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Date: Wednesday, 10:45 a.m.
To: Project Manager
Re: One more little thing...

If we could download what you know about project management to the rest of your company, we'd do it. Instead, we did the next best thing: we designed the new Microsoft® Project 98. So now, no matter how complex the project, no matter how many projects are going on, Microsoft Project 98 is all over the details. Managing every project in your company. Charting all the resources you have at your disposal. Tracking every task on every job in every project. With multiple views that let you look at every project from every angle. With the drill-down detail that tells you instantly what's wrong, whose beeper gets beeped, and when you'll be back on track. So on the outside, Microsoft Project 98 may look like the easiest project management software ever developed. But on the inside, it'll build the Panama Canal. For the details, check out our Web site at www.microsoft.com/project/.

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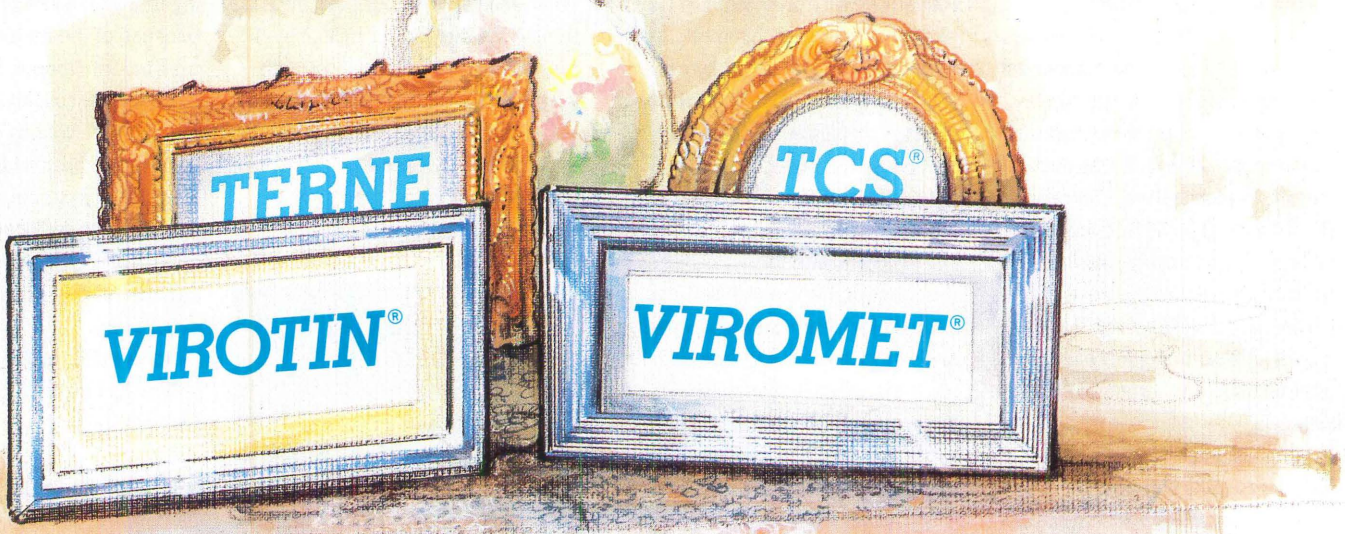
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CIRCLE 10 ON INQUIRY CARD

LETTERS

Remembering Rudolph

Every so often a person comes along whose life is the embodiment of the theory of the "tragic hero." Paul Rudolph, who died in August [September, page 40], was such a person. In architecture, Francesco Borromini and Louis Sullivan were among those creative souls whose artistic brilliance outweighed their interpersonal skills, which resulted, in part, in their being more appreciated after death than during their lifetimes.

Paul Rudolph's peers never recognized satisfactorily his extraordinary career. He never won the Pritzker Prize, the AIA Gold Medal, or the Topaz Award, while others of equal, sometimes questionable, stature received these honors. No one who knew Rudolph would debate his well-known apolitical inclination to not suffer fools gladly; this may have limited his potential for recognition.

Rudolph was one of the most dedicated architects I have ever known. He was also the best teacher I ever had. His personal tragedy was in his expectations of architecture: that it would confer on him that which only life can deliver. I know of these things because I was his student, his employee, and, later, his friend. Those who deserted him when his work went out of fashion represent an aspect of architecture that I detest.

While others may feel that much of his later work was a tour de force, I found that his envisioning capabilities and his courage were present throughout his career. He was committed to an extraordinary level of architectural innovation of a magnitude that exemplifies the very best of his discipline.

Rudolph was also a teacher of such resonance and authority that during his brief watch at Yale, he managed to produce graduates of an immense diversity, ranging from Alan Greenberg, Jaquelin Robertson, and Robert A.M. Stern on the one hand through Norman Foster, Charles Gwathmey, and Richard Rogers on the other. The best of those under his tutelage were neither intimidated by nor sycophantically inclined toward his own architectural production. As far as I am concerned, his behavior encouraged just such independence.

There is a theory—far better than that of the "tragic hero"—to be appreciated after Rudolph's death: one's innocence is left intact during life. If the way in which members of the architectural community exercised selective amnesia in regard to Paul Rudolph's accomplishments is an example of that theory, leave me out.

—Stanley Tigerman, FAIA
Tigerman McCurry Architects
Chicago

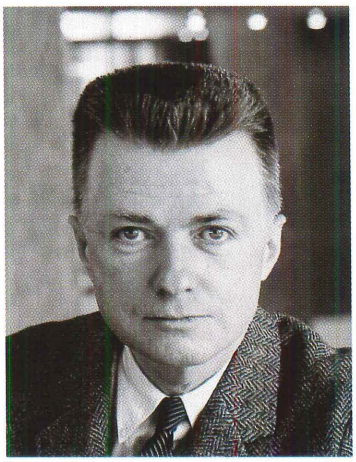
I have just read Michael Sorkin's appreciation of Paul Rudolph. I would like to add a "Southern" touch to his comments.

Sorkin wrote that Paul Rudolph "earned his architectural degree from Harvard." While Rudolph did hold a master's from Harvard, his undergraduate degree in architecture was from Auburn University, in the days when the school was known as the Alabama Polytechnic Institute (API).

Rudolph was a member of Brad Clopton's class, at both Auburn and Harvard. I worked for Clopton through my high school and college years. In fact, I have a copy of the annual from Auburn the year that Rudolph and Clopton graduated. Clopton was full of stories about Rudolph, often pointing out that Rudolph, after receiving his degree from Harvard, dropped API from his résumé.

Clopton also told stories of Rudolph's early projects in Florida, which were mostly houses. Rudolph had few clients in those days, mostly friends and himself. When these projects were first published, they were lauded not only for their strong linear character but also for the low, linear furniture he put in them. According to Clopton, Rudolph and his friends had little money for bedframes so they put their mattresses on the floor or built 2-by-4 frames and dressed them up with lengths of fabric. This low style of bedding became all the rage.

—Laurin McCracken
HNTB Architecture
Alexandria, Va.



I enjoyed Michael Sorkin's appreciation of Paul Rudolph but was taken aback by his comments about the fire that damaged the A&A Building at Yale University.

Sorkin appears to make the assumption that the fire was, in fact, set intentionally. After extensive investigation, the New Haven Fire Marshall concluded that the fire was accidental. He knew how, when, and where the fire started, and ruled out arson. Sorkin writes of this accidental gutting of a building as if it were a huge symbolic protest against architecture and, tangentially, against Paul Rudolph. It was neither. The fire was an unfortunate accident that destroyed a good deal of student work (including mine) and did a great deal of damage to a very interesting, if somewhat unpragmatic, building.

There was a certain amount of protest in the air in those days, but most of the students in my class recognized that they were in a great school led by a great educator in Charles Moore, and they were anxious to pursue their studies.

I am also a bit puzzled that Sorkin found the fire to be the "central event in the formative years" of his architectural generation. A building that was something of a firetrap because of the materials used by the students (paper, rubber cement, benzine, plastics, etc.) caught fire and burned. Nobody set it. Although the fire emphasized the importance of sprinkler systems, which the A&A Building did not have, I do not understand how this event was "central" to the education of our generation.

—Robert Knight, AIA
Knight Associates, Architects
Blue Hill, Me.

RECORD Interiors Redux

On entering the architectural profession in 1947, at a time when young folks received experience in lieu of cash, my wife and I built our first house. While rattling around in our 480 square feet and gazing at the bare studs, we were somewhat depressed by our pecuniary disadvantage in not being able to purchase wallboard.

Half a century later, having seen the Chapel of the Word by David Woodhouse Architects [September, pages 80–85] and the house and studio by Randy Brown [pages 96–101], we realize that we were 50 years ahead of our time.

—John L. Webb, FAIA
Ponchatoula, La.

Gehry's Guggenheim

Maybe its just me. . . . Maybe I'm getting old. I thumb through architectural magazines every month out of habit, finding them less useful and less inspirational each time. So, with that low level of expectation I opened your October issue to the pages on the Guggenheim in Bilbao by Frank Gehry [pages 74–87].

Wow!

It is far too early to judge it as architecture, but as a sculpture it is incredible. The response it creates goes well beyond admiration: it is pure, green-souled envy of the talent expressed.

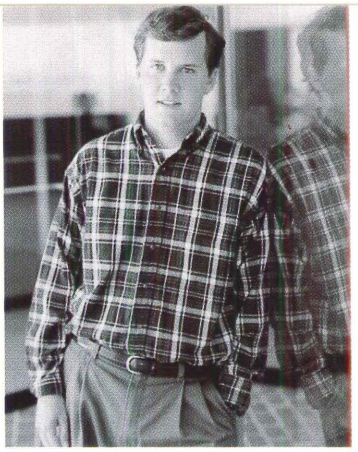
(continued on page 194)



RCLE 11 ON INQUIRY CARD

SPEAK OUT Becoming an architect: motivation to fail?

ROBERT L. MORGAN



Robert L. Morgan is president of the American Institute of Architecture Students (AIAS). The AIAS is an independent professional student organization that promotes excellence in architectural education, training, and practice. It has a membership of more than 5,000 students, interns, and professional affiliates. For more information, contact the AIAS at 202/626-7472 or aiasnatl@aol.com.

In August 1993 I entered the Clemson University School of Architecture with 72 other students. These individuals were among the top academic achievers entering Clemson, with an average SAT score of 1,115 and an average rank in the top 20 percent of their high school classes.

When I was awarded my Bachelor of Science in Architecture last spring, only 35 of my original classmates stood beside me.

An attrition rate like this is alarming, but in the course of becoming an architect, not unusual. Students and interns face an eight-year-plus process that includes acquiring a degree from an institution accredited by the National Architectural Accrediting Board, participating in the Intern Development Program, and passing the Architect Registration Examination (A.R.E.).

College tuition is increasing, compensation during internship remains appallingly low, and the A.R.E. is now one of the most expensive professional exams in the country. Together, these factors have prompted many students and interns to opt for alternative careers.

While the AIA increases its efforts to restructure the profession, the educational environment drives away the very people who could implement change.

From the start, architectural students encounter a hazing mentality in which the success or failure of their design-studio performance, frequently harshly and subjectively judged, overrides all other educational experiences.

The hostile studio environment and lack of educational diversity pushes many students away from architecture. Some leave because they cannot handle the rigorous training, but many more leave because they do not see the ultimate reward for their efforts in either professional compensation or ultimate job satisfaction.

The college years should be a time when students expand their horizons while receiving an intense but well-rounded education. This cannot occur in a demeaning studio environment that demonstrates little sensitivity to personal and professional development. In an increasingly globalized economy, this educational approach discourages creative thinking just when we need it most.

Rather than motivate students to embrace the greater artistic, technological and social mission of architecture, today's training sustains an outmoded atmosphere of learning by public humiliation rather than by collective and constructive criticism.

This mind-set carries into the workplace as students become interns. Practitioners pay low wages, demand long hours, and generally assign unrewarding work. Architects are less interested in mentoring—continuing the educational process and filling the educational gaps that schools do not provide—than in interns' hours and billing value. In so doing, they turn their backs on the future of architecture, forcing interns into a stilted environment that stresses production over professional development.

If they survive school and internship, aspiring architects must then take the A.R.E. to become licensed. This past year the National Council of Architecture Registration Boards added insult to injury by almost doubling the price of the A.R.E. to $980. In a profession that regularly complains that it does not get enough respect, little respect is paid to its fledgling members.

How can we work to redefine the profession when so little effort is dedicated to refining the process by which architects are made?

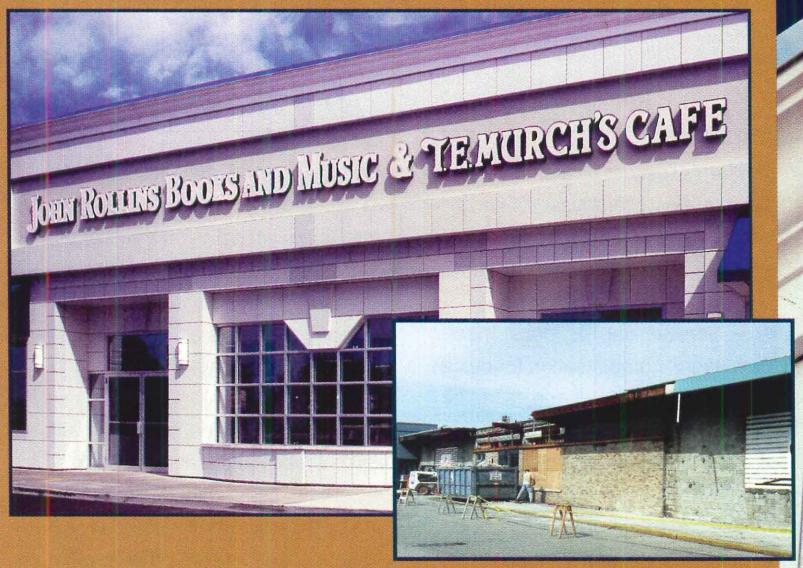
Talented and intelligent students are entering schools, but the training process fails to provide them with the necessary skills to become leaders in society and proponents of the profession. At worst, it steers them away from architecture altogether.

Until students, educators, interns, and practitioners break from this destructive tradition and redefine this moribund educational process, the profession of architecture will never be able to maximize its potential. ■

Contributions: *If you would like to express your opinion in this column, please send submissions by mail (with a disk, if possible) to Speak Out, Architectural Record, 1221 Avenue of the Americas, New York, N.Y. 10020; by fax to 212/512-4256; or by E-mail to ellen_popper@mcgraw-hill.com. Essays must not exceed 700 words. The editors reserve the right to edit for space and clarity. Where substantial editing occurs, the author will receive final text approval.*

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CIRCLE 12 ON INQUIRY CARD

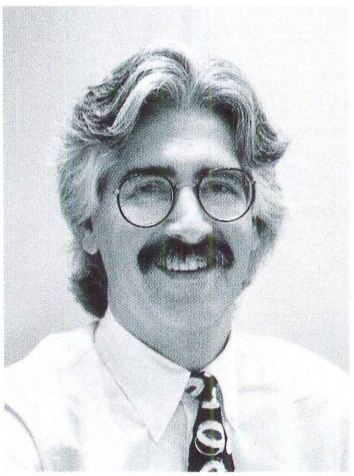
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MENTORS When wooing a new client, should you charge for conceptual design?

Belinda Stewart, AIA, is principal of Belinda Stewart Architects of Eupora, Mississippi. Her firm focuses on historic preservation, restoration, and new construction within historic environments.

R. K. Stewart, AIA, is a vice president with Gensler, in charge of the firm's Technical Steering Committee. Past president of AIA San Francisco, Stewart is Vice President for Professional Practice and Education, AIA California Council.





My husband and I, both architects, run a design firm. When a client approaches us with a project we start working right away. But we do not charge a fee until a design has been approved. Unfortunately, we have worked for weeks refining a plan, only to have the client take the drawings and have it executed by someone else. If we charge a retainer, we fear we may lose clients. Is there a solution? —T. A. Rahman

Belinda Stewart, AIA, responds: Communicate clearly with prospective clients. Describe in detail the services you are going to provide. Emphasize your creativity and professional training. Show how you have assisted other clients in this manner. Make every effort to be hired before preparing any design schemes. If you believe that the services you offer are valuable, it is up to you to impress this on your clients.

If, after full consideration, you choose to provide services up front, one alternative is to make a limited scope of work part of your marketing budget. Establish strict limits for what you will do. Set a specific time frame, number of schemes, or other quantifiable limit, and be sure it is agreed upon before you start. Define limitations on the use of the product if you are not hired.

While you may be concerned about alienating clients by charging them for design ideas, in fact subconsciously they may be thinking, "You get what you pay for." You need to ask yourselves, "Will a few lost clients have significant impact on our firm's success?" You may not have received commissions from them anyway—and you will have gained valuable, remunerative time.

R. K. Stewart, AIA, responds: The question of compensation for design concepts is a difficult one, faced by all architectural and interiors practitioners. In general, there is no legal prohibition against providing free design services. Some states, like California, have requirements for a written contract defining scope of services and method of compensation prior to starting work. But this is the exception, not the rule.

Copyright laws provide some protection for your ideas. Design concepts are legally protected, but this safeguard is easy to surmount with a few design changes. Your question is really a business decision that each practitioner must make.

Architects tend to be optimists, believing our designs to be so compelling that clients will gladly pay us what we are worth. The reality is far different. As a profession we have not done a good job of convincing consumers of our value. Arguments raised about architects' worth are undercut when practitioners perform design services at no cost. Why should prospective clients pay for design concepts when we give them away?

Here are some factors to consider when deciding the business question of compensation: If you hope to cultivate a long-term relationship with this prospect, as a sign of your interest you may waive compensation for conceptual design. But while this may draw the client in, it also sets up expectations that you will forego compensation on future projects. Unwittingly, you may cause the client to question your business sense. They may wonder, "How will these architects look after my money in managing the construction budget?"

For a new project type you may waive compensation as a research investment. Other options are to forego part of your fee, use lower billing rates, or develop other fiscal strategies to achieve your professional goals.

Whatever you decide, you can still take steps to protect your design concepts. Make your ownership of the copyright explicit. If you do not use a contract, then at least write a letter making your position clear. Or affix a rights ownership statement to the drawing. Establishing ownership may afford you legal recourse if the client asks someone else to execute your design. The most effective means is also the easiest: Do not give any drawings or electronic files to a potential client.

Compensation is a critical issue for architects. Is a client who does not want to pay you a client you really want to have? ■

Questions: *If you have a question about your career, professional ethics, the law, or any other facet of architecture, design, and construction, please send submissions by mail to Mentors, Architectural Record, 1221 Avenue of the Americas, New York, N.Y. 10020; by fax to 212/512-4256; or by E-mail to ellen_popper@mcgraw-hill.com. Submissions may be edited for space and clarity.*

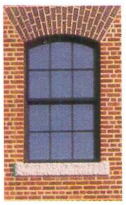
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CIRCLE 13 ON INQUIRY CARD

PULSE RECORD readers were asked: Should the master's degree be designated as the first professional degree for all architects?

NO: 65%

No: An architect practices by virtue of a license issued by a state. The same is true in law, dentistry, medicine, and engineering. Architecture has been practiced successfully for generations by those armed with no more than a baccalaureate degree. The university that educates and hires degreed graduates certainly adds the luster of professionalism and credibility to its programs, but the public need for licensed professionals is not met one millisecond sooner or to a higher degree of effectiveness by the practitioner with the master's or Ph.D.

Why subject a student to two degrees and seven years of effort only to enter a highly competitive profession that features low wages, limited job security, and an uncertain career path? And, yes, I have a master's degree.
—Unsigned

No: Single designation is absurd. The B.Arch. should be the first and only degree. The M.Arch. degree is for theorists.
—John A. McCormac, AIA
St. Petersburg, Fla.

No: There is much evidence that we are moving toward plurality in society. The energy of this pluralism drives our culture and the evolution of the architectural profession. The profession requires individuals who have different educational experiences, abilities, and cultural traditions. The notion that a single professional degree at the master's level will enhance prestige and reduce confusion is an illusion.
—Marvin J. Malecha, FAIA
Dean, School of Design,
North Carolina State University
Raleigh, N.C.

YES: 35%

Yes: I firmly believe that the first professional degree should be a master's. I attended Kent State University's five-year, NAAB-accredited program. At KSU, the B.S. in architecture is awarded after four years of study. The B.Arch. is earned in the fifth year, which is considered a graduate-level year and requires graduate-level tuition. Explaining this process to the public and to parents is difficult. I now work for a firm and teach at a community college. Without a master's degree, it is virtually impossible to find a full-time position at a university without attending college for two more years, which is unlikely.
—Christopher Smith, Assoc. AIA
Gilberti Spittler International
Cleveland, Ohio

Yes: Five-year degrees have no academic credibility; they have been dropped by most other professional fields of study. The five-year degree is technical training. Students should acquire a liberal arts education before pursuing a professional education.
—Robert L. Bliss, FAIA
Salt Lake, Utah

Yes: I believe that the key to this question is that all architects are human beings first and architects second. The advantage of obtaining an architectural degree in a graduate school is that you are surrounded (hopefully) by more mature people.

In most states, we do not even allow young people to drink until they reach the age of 21.
—Henry Chao, AIA
Payette Associates Inc.
Boston, Mass.

This Month's Question

Should more architects lead design-build teams?

Some proponents of design-build suggest that architects not only participate as collaborators but as prime contracting parties, employing general contractors as subcontractors to produce projects within agreed-to budgets and schedules. The compensation supposedly includes higher fees and greater potential for control of the entire process.

Should more architects lead design-build teams? ☐ Yes ☐ No

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A Tale of Two Water Closet Technologies



by Joseph M. Smaul, P.E.

It was while working as the head of plumbing engineering and overseeing the HVAC for hotels on the East Coast that I became involved with pressurized water closets. We just finished a 600-room facility and we were preparing to go to work on the next 400-room project, when a letter crossed my desk from the major fixture manufacturer for the new project. This fixture manufacturer — who was different from the one we used on the 600-room hotel — suggested that we do not use gravity-flushing closets in the hotel we were engineering. Instead, the manufacturer recommended his line of pressure-assist water closets for a variety of reasons.

The question immediately arose in my mind: why? If pressure-assist is the standard for hotels, why didn't the other manufacturer for the 600-room hotel recommend it?

I was assigned the task by the principals of my company to find out what this was all about, so I called the head of maintenance engineering at the 600-room hotel where we had specified and had 1.6 gravity-flush water closets installed. I asked him how these gravity units were working out.

I still recall how matter-of-fact he was when he calmly said, "I'm really glad you called. We get about 75 to 100 calls a week to unclog these toilets. It has become pretty routine now. I think ever since they limited the water usage to 1.6 gallons per flush, that's when the problems started. We leave plungers right in the rooms now, so we don't have to be carrying them down the halls in front of the guests. I guess there isn't much we can do about it!"

I was looking at the other manufacturer's letter that recommended pressure toilets on my new project as I listened to his comments. He continued, saying, "We are experiencing tremendous guest dissatisfaction over this clogging, double flushing, and poor performance. But say, I've heard of something that might be worth investigating as long as I have you on the phone. I think they call it pressure toilets. Can you find out if there's anything to this? I've called the fixture manufacturer, too, and they said they are looking into the situation for us. There might not be anything we can do except live with it."

I said I would see what I could do, and hung up the phone. I then called the original manufacturer we used at the 600-room hotel. It turned out that he was already well aware of the clogging problems at the hotel...that he was in the process of re-engineering his fixture, and that he would step up and resolve the situation for the maintenance engineer's and my own satisfaction.

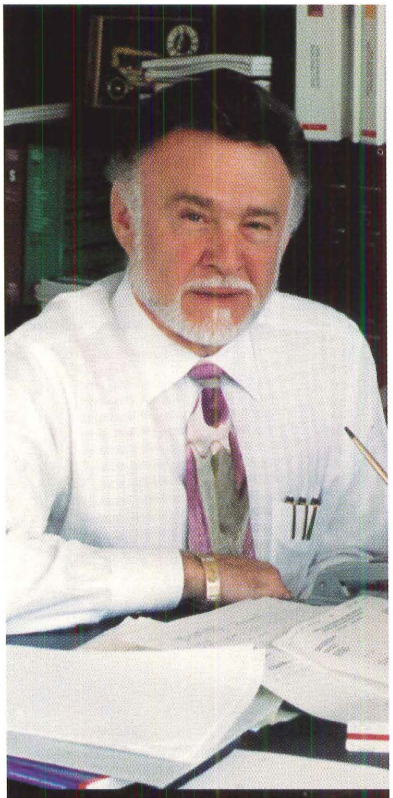
I decided I needed more information before I made our final recommendation between gravity and pressure-assist, so I researched further by calling maintenance engineers around Las Vegas hotels. I found out that they were either installing pressure-assist, or replacing gravity with pressure-assist. One of the casinos actually took out ALL of their gravity toilets and replaced them with pressure-assist! Since they started using pressure, they were able to reduce their service factor on toilets to zero.

I asked around some more, and I heard from people who bought new homes that were disgusted with the 1.6 gravity because of flushing two or three times. Then I remembered that my own relative had a closet off the den with 1.6 gravity that even the kids were not allowed to use because of performance problems. They actually have to go upstairs to the second level toilets.

Well, all of this made our decision easy, and we recommended pressure-assist toilets.

But I also came upon something from my study that was truly amazing: it didn't matter which fixture manufacturer was specified for pressure-assist toilets. All the manufacturers were using the same pressure-assist technology in their pressure-assist fixtures. That technology? Sloan's *FLUSHMATE*® pressure-assist operating system.

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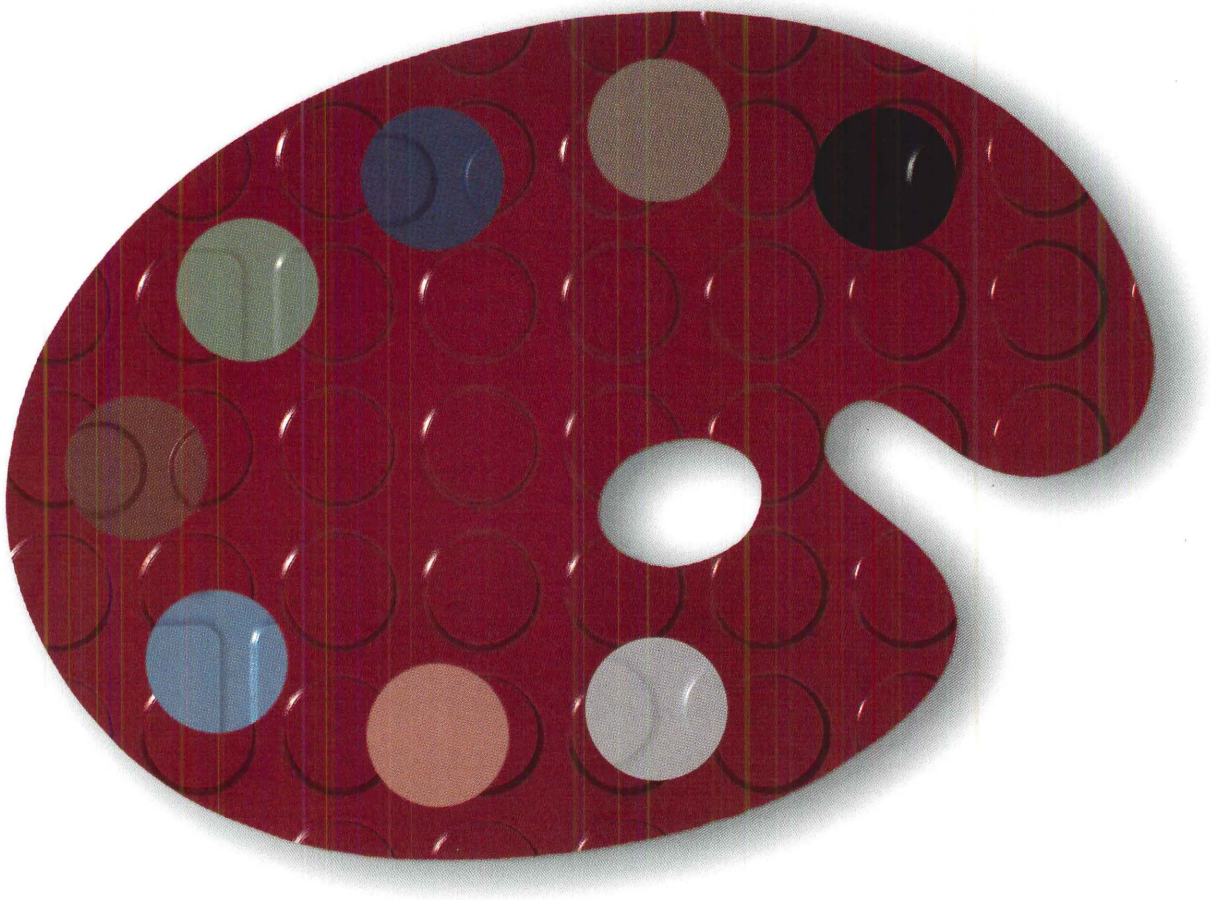
About Joseph Smaul, P.E.

With 44 years of experience, including the first 13 as a pipefitter, Joe Smaul has done it all — from running his own mechanical design contracting company for 16 years to doing consulting engineering for some of the most well-known engineering firms. He has patented energy conservation systems in office systems, and is a member of and frequent speaker at major trade associations in the United States. He is currently doing engineering work at Marvin Waxmam Consulting Engineers in Glenside, PA. To contact, or for more information on Sloan FLUSHMATE, call: 1-800-875-9116.

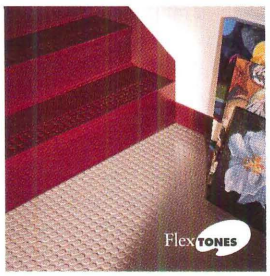


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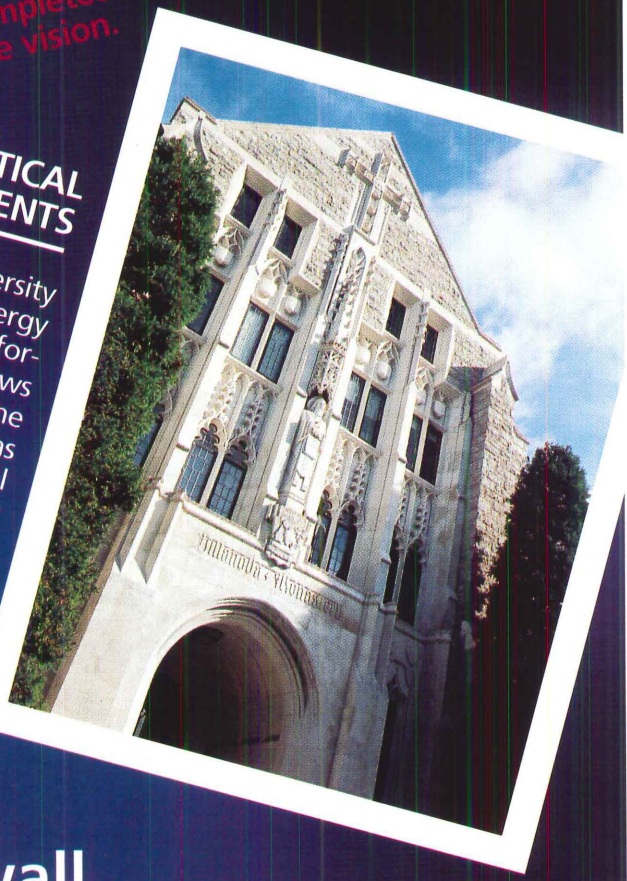
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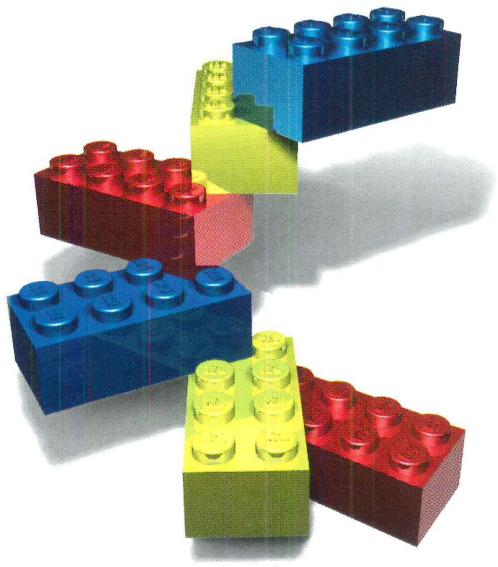
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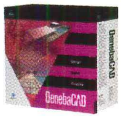
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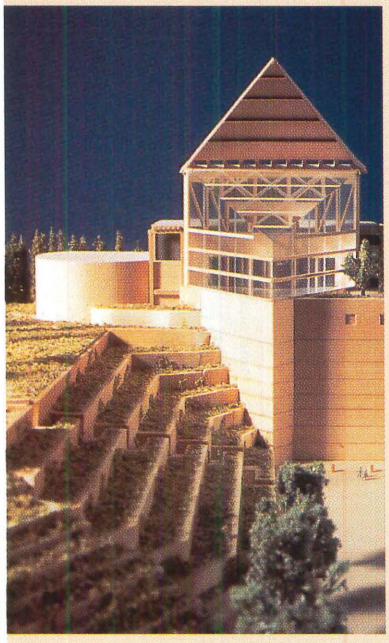
NEW PUBLICATIONS ANALYZE DESIGNING FOR DISASTER

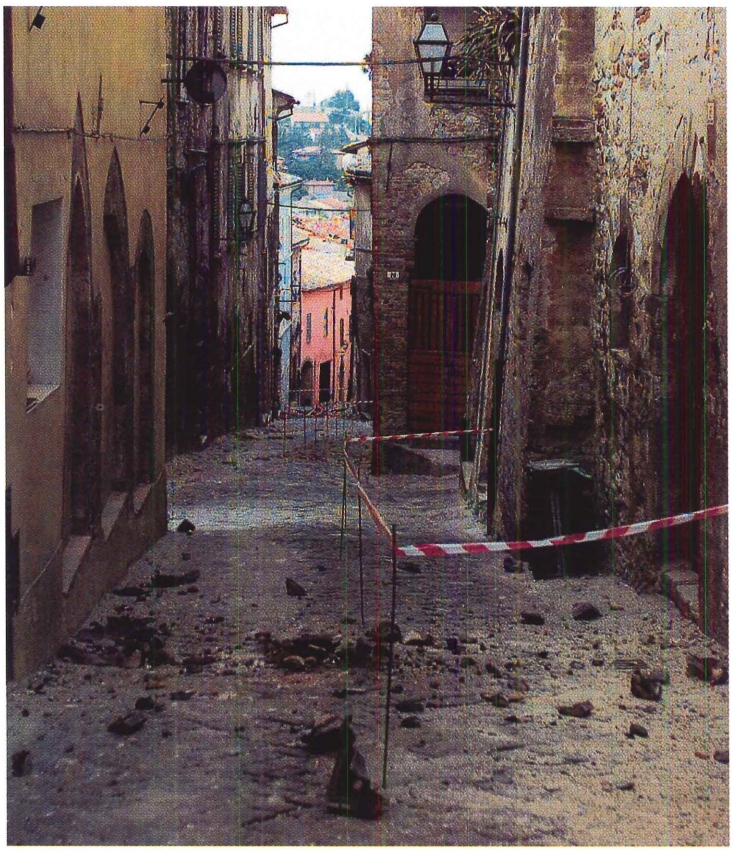
Publications emerging from two recent conferences will help architects accommodate the forces of nature. The National Multi-Hazard Institute, which convened in August and was funded by the Federal Emergency Management Agency (FEMA), addressed the design implications of flood, fire, wind, and earthquakes. Building technology and performance texts produced by FEMA for the conference include "Seismic Design Basics for Practicing Architects," "Wind Design Basics," and "Flood Protection Basics." For copies, call AIA headquarters or 800/365-ARCH. A second conference, co-sponsored by the AIA and the Japan Institute of Architects, analyzed the Great Hanshin-Awaji Earthquake which rocked Kobe, Japan, in January 1995. The conference addressed response strategies, infrastructure damage, effects on earthquake-resistant buildings, and retrofitting for seismic stability. It produced a pamphlet entitled "Architectural and Planning Lessons from the Great Hanshin-Awaji Earthquake." To order, contact Deane Evans at the AIA. *Ellen Sands*

RABIN MEMORIAL ARCHIVE WILL RISE ABOVE TEL AVIV

On a promontory overlooking Tel Aviv and the Mediterranean Sea, a symbolic cornerstone was laid for the Yitzhak Rabin Center for Israel Studies. Israeli-born architect Moshe Safdie was selected to design the Rabin Center. Its stated purpose is to commemorate a singular leader by teaching the basic values of peace, democracy, equality, and tolerance, and to honor the ability of people of vision and courage. Moshe Safdie also designed Yitzhak Rabin's tomb, located on Mt. Hertzel in the National Cemetery, Jerusalem.

The Rabin Center will be built atop an underground war-time emergency power station, now abandoned. It will include a museum presenting Rabin's life and times, an auditorium, a research institute devoted to the history of the era, a library and archive, and a Great Hall for multipurpose use. The structure will incorporate the old power station in its foundation. Looming above will be a seven-foot-tall glazed pyramid, the roof of the Great Hall. It will open and close with pivoting counterweights according to the season and the time of day. "Though serene in form, the Great Hall is in fact incomplete," said Safdie. "Its severed, ever-shifting shape bespeaks Rabin's disrupted life and the mission which he began, a mission which is yet to be completed." Construction on the 2,667-sq-ft complex is scheduled to begin in the summer of 1998, with completion expected in the year 2000. *Sally Brown*





ITALIAN EARTHQUAKE RECONSTRUCTION: AN OPPORTUNITY FOR BROADER VISION

The September 26 earthquake, registering 5.5 on the Richter scale, caused grave damage in the Umbria and Marche regions of central Italy. While repair to major monuments and works of art, such as the Basilica of San Francesco in Assisi and its important frescoes by Cimabue and Giotto, will be left to restoration professionals, the great challenge for Italian architects will be to rebuild the hundreds of small towns that give shape to this part of the Italian landscape.

Each town's historic center is encircled by perimeter walls, and has its church, municipal building, piazza, palazzo, and medieval street system. Each represents an urban microcosm of the larger and better known towns of Assisi, Foligno, Gubbio, Camerino, and Urbino. Together, these centers constitute a network of towns that seem to communicate with each other from one hilltop to the next. This structure contributed to the formation of a unique landscape that was stratified, layer by historic layer, over time, a typological recurrence that should inspire professionals dealing with reconstruction to treat the region as a unified and coherent architectural artifact.

Shortly after the initial tremors, art historian Carlo Arturo Quintavalle, in an editorial in the Italian daily *Corriere della Sera,* proposed the designation of an Umbria-Marche National Park to protect the region's extraordinary medieval heritage. "At stake here is the future of the most illustrious urban fabric in Italy, of the landscape that inspired Saint Francis; at stake here is our history," he wrote.

The architects, engineers, and urban planners involved, as well as the hundreds of local governments administering the public funding that will certainly be designated for the area's reconstruction, have their work cut out for them. Will they develop strategies and tools to rebuild this comprehensive regional system? *Ilene Steingut*



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CIRCLE 18 ON INQUIRY CARD



LASER FACILITY TO PROVIDE A SAFER WAY TO TEST NUCLEAR WEAPONS

Construction has begun on the $1.2 billion National Ignition Facility (NIF), a Department of Defense research center at Lawrence Livermore National Laboratory, in Livermore, California, where scientists will use the world's largest laser to re-create the energy of the sun. Designed by AC Martin Partners of Los Angeles, NIF will enable the government to test nuclear materials without detonating any weapons.

The facility consists of two structures linked by an environmentally controlled corridor. One building will house the NIF's laser system, optical switchyard, target chamber, and computer control system. Another will contain 33,000 sq ft of laser optics—more than all the world's telescopes combined.

The project presented design and engineering challenges in stringently tight vibration, temperature, isolation, and radiation-shielding requirements. One such objective: to maintain a temperature constant to 0.5 degrees in a building as big as a football stadium.

NIF research will help establish a model for economical electric power generation using fusion as an alternative energy source. Scientists think that fusion-based electrical power may be more benign and cheaper than other forms of large-scale power production.

But the project is not without detractors. It has been criticized for costs, and some scientists question its effectiveness in fully measuring the reliability of nuclear weapons. Local environmental groups challenged NIF's health and safety risks in court, but failed to convince a judge to stop the project.

ARCHITECTS CONVENE IN CHICAGO TO DEBATE MODERNISM AFTER MIES

Is it possible to go beyond Mies?

Debate swirled around this question, which is the premise of a design competition for a new student center, at a weekend symposium at the Illinois Institute of Technology (IIT) in September.

The answer is no, according to some in the Miesian old guard. It took a thousand years of refinements to produce Chartres and the Parthenon, said longtime IIT professor Arthur Takeuchi, but Mies brought his brand of Modernism to Chicago from his native Germany a mere 59 years ago. "I think our attention span is too short," Takeuchi said.

As the colloquium convened, a new edition of "The 311 Best Col-leges" was published by the *Princeton Review*. It rated the mostly Mies-designed campus the nation's "least beautiful." This inconveniently timed news item enlivened the event.

Mies's defenders said the low ranking showed how far advanced his designs were and still are. "I think Mies would be very gratified," quipped Columbia University architectural historian Kenneth Frampton. Yet University of Illinois at Chicago historian Robert Bruegmann replied that most nonarchitects think IIT's boxy brick-and-steel buildings resemble factories.

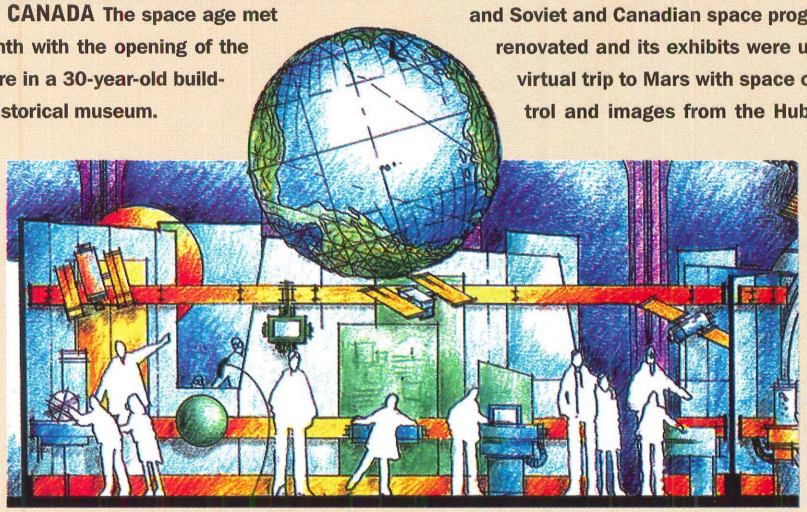
Even Mies's grandson, Chicago architect Dirk Lohan, acknowledged that "the students of this campus deserve a building they can like, even love."

But Lohan added that Mies was able to go beyond himself, recalling how his grandfather broke his own Modernist rules when they no longer suited his creative purposes. "Life means change, and life without change is death," Lohan quoted Mies as saying.

During the event, IIT expanded the area where the campus center will be built after the finalists deemed the original site—catty-corner from that Miesian icon, Crown Hall, and along a branch of Chicago's elevated tracks—too restrictive. The change allows the campus center to reach over or under the tracks and to face Crown Hall directly.

The five finalist teams—Peter Eisenman, FAIA; Zaha Hadid; Rem Koolhaas; Helmut Jahn, FAIA, and Werner Sobek; and Kazuyo Sejima and Ryue Nishizawa—all attended the conference. They were selected on the basis of statements and portfolios and will submit their proposed designs in January. A five-member jury chaired by Atlanta architect Mack Scogin, Jr., AIA, will announce the winner in February. *Blair Kamin*

BACK TO THE FUTURE IN CANADA **The space age met history in Vancouver last month with the opening of the $6 million Pacific Space Centre in a 30-year-old building that also houses a local historical museum.**



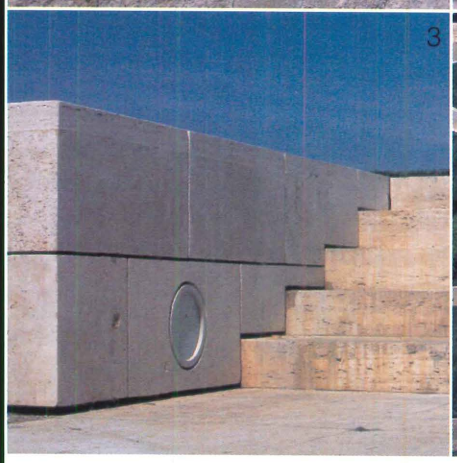
Designed by Aldrich Pears Associates, Vancouver, the center comprises 6,300 sq ft in three wings. Two wings house multimedia theaters devoted to interactive presentations about space travel, and the third contains a gallery with exhibitions and artifacts from NASA, the Smithsonian Institution, and Soviet and Canadian space programs. An existing planetarium was renovated and its exhibits were updated. New attractions include a virtual trip to Mars with space communications from mission control and images from the Hubble telescope, recharging a solar energy device close to the sun, and surviving a meteor storm. There is also an interactive "Cosmic Courtyard" exhibition with five custom-designed computer-animated video games. The building's central rotunda, which includes a suspended stained glass and stainless-steel fountain, was restored by Matsuzaki Wright Architects Inc., Vancouver. ***Albert Warson***

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MEMORIAL USES GLASS AND LIGHT TO HONOR WOMEN IN THE MILITARY

After an eight-year campaign, the memorial to Women in Military Service to America was dedicated October 18 in Arlington, Virginia. The commission had been awarded in 1989 to Weiss-Manfredi Architects of New York City after a two-stage competition.

Intended to commemorate contributions of women from all branches of military service throughout the nation's history, the project was hampered by less-than-successful fundraising, an indication, some think, of the attitude toward women in the military.

The scheme takes an existing design element, the hemicycle at the end of the Memorial Bridge, and resculpts it. The original structure was a decorative retaining wall designed by McKim, Mead & White. Its statuary and inscriptions were meant to be viewed while crossing the Memorial Bridge.

In the new scheme, an area behind the wall was excavated to create exhibition and theater space. The wall was also perforated to create exterior stairways leading to a roof plaza. Now visitors move over, above, and through the wall.

The architects etched the names of women onto skylights, through which light falls, casting the shadows of the names on vertical marble panels lining the interior space. Depending on the season, time of day, and cloud coverage, the light becomes a source of movement and mood.

The shadows of people walking on the roof deck cascade onto the panels below, in a poetic rendering of notions of the past and the temporality of this world. *Ellen Sands*



NEW MARKETING MATERIALS WIN THE STAMP OF APPROVAL

As the Society for Marketing Professional Services (SMPS) approaches its 25th anniversary, architects no longer shy away from the concept of marketing. In fact, this year's SMPS awards show that, having accepted brochures and direct mail as a matter of course, architects are looking for new ways to catch the attention of clients.

A whimsical set of stamps featuring portraits of firm personnel wearing building projects as hats did just that for Seattle-based GGLO, an architecture and interiors firm. The stamps were so original they also won "Best of Show," a discretionary category reserved for unique and unusual entries. Another atypical submission was a mug of Irish breakfast tea, complete with tea bag, announcing a merger between John Ireland and Harrison Associates of Auburn, Maine.

Recognizing the expanding field, this year's awards included two new categories, special events and Web sites. *Gerald Moorhead*

ARCHITECTURAL PRESS ROUNDUP

ARCHITECTURE AS CORPORATE IDENTITY

The New York Times, September 17, 1997 Once again, architecture is functioning as corporate logo, and Big Blue is leading the way. IBM's sprawling new headquarters in Armonk, New York, signifies "the postmodern, postdownsizing, employee-empowerment era that the company now represents." The solemn old IBM building, designed by Skidmore, Owings & Merrill, "was a classic example of the corporate architecture of the cold war era," its design giving few clues to what went on inside. The new building, by Kohn Pedersen Fox, announces, "We're creative, we're innovative, we value our people."

HOMEOWNERS EVICTED BY MALL

U.S. News & World Report, September 15, 1997 When America's Founding Fathers framed the Constitution, they included the concept of "eminent domain," which allows government to take private property for public use. That concept is being stretched to its limit now as the difference between the public and the private realms blurs. In Hurst, Texas, a suburb of Fort Worth, the local government voted to condemn the property of 100 homeowners so that the town's biggest taxpayer, the North East Mall, could expand. But is this what urban theorists meant when they noted that private malls have become America's new main streets?

WHAT BECOMES A LEGEND MOST?

The Philadelphia Inquirer, October 2, 1997 Eighty-seven-year-old urban planner Edmund Bacon, whose ideas guided a generation of development in Philadelphia and whose book *The Design of Cities* helped to educate a generation of architects and planners, seems determined to go out with a bang, not a whimper. At a public hearing about Philadelphia's Independence Mall, Bacon shouted down a moderator who tried to curtail his negative comments on the latest scheme designed by landscape architect Laurie Olin. Bacon left by a side door before the meeting ended, telling a reporter that he'd rather spend his time on his memoirs, whose working title is *How it Happened.*

THE TALK OF L.A.

The New Yorker, September 29, 1997 Critic Kurt Andersen gave high praise to Richard Meier's Getty Center, opening this month on a hilltop overlooking Los Angeles. According to Andersen, Meier successfully avoided the oppressive sense generated by the "machined-looking repetitiveness" of many big modernist buildings. But he had help: a complex and composite program underscored by an enormous budget. The critic concluded "that the terrible thing about most postwar modernism was not the style but the budgets (too small) and the scale (too big)."

HOW TO UPDATE A MODERNIST ICON

The Atlantic Monthly, October 1997 Noting that "architectural modernism is now more than seventy years old," historian and critic Witold Rybczynski cautioned architects not to confuse Modernism with newness, as some of the entrants in the Museum of Modern Art's recent design competition for its own expansion seemed to do. Though it may sound like an oxymoron, "modernism does have a tradition—a rather long one," he wrote.



SKUNK WORKS BUILDING RENOVATION: FROM AIRCRAFT TO ANIMATION

It was where some of the world's most advanced airplanes were designed when Lockheed Aircraft owned the Burbank, California, site. After renovation by The Landau Partnership, Santa Monica, the Skunk Works building, as it was formerly known, is now home to the Disney Feature Animation unit.

The transformation of the 225,000-sq-ft, four-story building, which was nicknamed after a dark and magical place in the 1940s Li'l Abner cartoon, was called the best renovation in the West by the California Building Industry Association's Gold Nugget Awards.

"Our goal for this building," said architect Thomas Landau, "was to design an environment conducive to creativity. And for an occupant such as Disney, this immediately translated into an ambience of whimsy and informality."

The architecture is playful, with colorful, decorative lighting on the building exterior and canted interior corridor walls. The interiors were designed by Lauren Rottet of DMJM/Rottet. In addition, imaginative new fenestration was created to generate maximum light in a structure that formerly had minimal windows due to stringent security requirements.

The maverick design approach that prevails at the Skunk Works Studio, as it is now known, extends to the executive suites. Sun-illuminated corner spaces are utilized for stairwells, not reserved for high-powered executives. The reason: the energetic Disney folks are more interested in speedy, pleasant journeys from floor to floor than they are in corporate hierarchy.

The building is the first phase of a $220 million, 16-acre corporate entertainment campus being developed by M. David Paul & Associates.

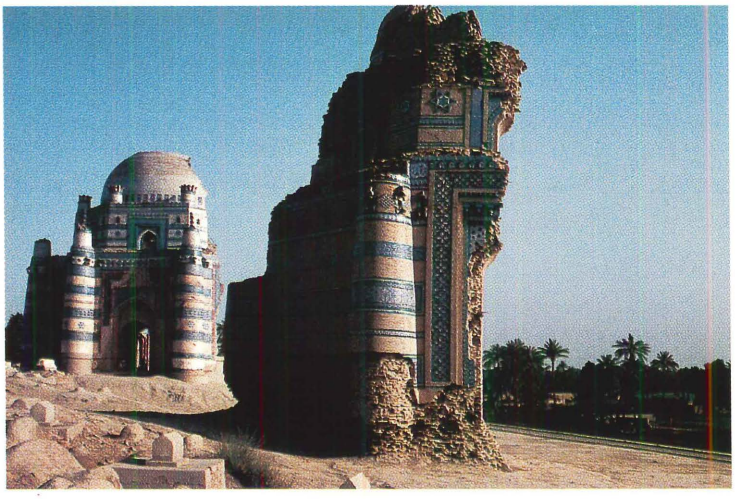
CULTURAL LANDSCAPES QUALIFY AMONG WORLD'S ENDANGERED SITES

It's not just buildings and monuments. That's one of the messages coming from the World Monuments Fund (WMF) 1998–99 List of 100 Most Endangered Sites. Three cultural landscapes and four historic city centers are on the latest World Monuments Watch, which includes sites in 55 countries.

Today, commercial development threatens unique places such as Lancaster County, Pennsylvania, where the Amish have built and farmed for three centuries; the South Pass Cultural Landscape in Wyoming; and the Abava Valley Cultural Landscape in Latvia. The historic centers of Prague, Czech Republic; Tbilisi, Georgia; Irkoutsk, Russia; and Kampong Cina, Malaysia, also made their way onto the latest Watch, the second listing since the WMF created the program in 1996.

Just as remarkable as the sites placed on the list are the ones removed because they have been repaired and therefore are no longer considered "endangered." Out of the 100 sites on the first list, only 25 remained on the 1998–99 roster. "It's tremendously important, as we issue our second List of 100 Most Endangered Sites, to let people know that the World Monuments Watch has been a success," said Bonnie Burnham, WMF president.

The WMF, with funding from American Express, the Samuel H. Kress Foundation, and other groups, provided $3 million in grants to 48 sites on the first list, prodding governments to join community groups in rebuilding. *Clifford A. Pearson*



The endangered Uch Monument Complex, Punjab Province, Pakistan.

CONTRACTORS (RELUCTANTLY) ENDORSE NEW AIA DOCUMENTS **By a 130–67 vote, the Associated General Contractors board endorsed a revised version of AIA's A201—The General Conditions of the Contract for Construction, a basic document for owners and contractors. The vote came September 29 at AGC's mid-year meeting in Albuquerque. The new A201 was highly controversial among contractors and required a roll-call vote, a rare event for the AGC board. The provision drawing the most criticism dealt with delegating design responsibilities to contractors. Officials at AGC and AIA agree that design delegation has been increasing for some time, affecting areas such as curtain walls, precast concrete, and steel connections. "This isn't like new doors are opening," said Robert F. McCoole, president of J.S. Alberici Construction Co., St. Louis, an AGC member who supports the new contract. Still, a vocal minority of AGC board members opposed the rewrite, worried that architects are shifting risks to them. McCoole said opponents tended to be from smaller firms. But Dale Ellickson, counsel to AIA's contract documents program, denied that the new provisions transfer risks. Instead, Ellickson said, the document attempts to provide more certainty over delegation. The document says that the designer-of-record must establish required criteria for delegated design. It also prohibits delegation unless contract documents require it, and it says delegation cannot take place in a state where a statute prohibits it.** ***Tom Ichniowski***

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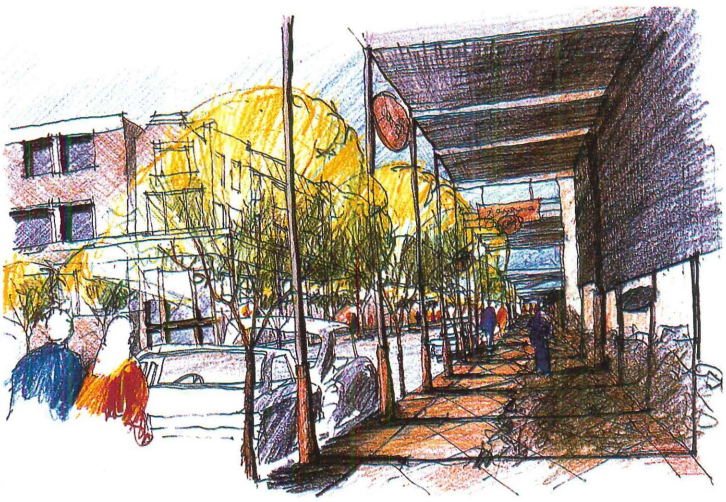
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CIRCLE 20 ON INQUIRY CARD



FOR ARCHITECTS IN THE PANHANDLE, NEW URBANISM WITH A TEXAS TWANG

Several recent New Urbanist projects in Texas have drawn upon indigenous ideas to create a sense of place and forge a connection with local history. Alliance Development recently held a design charrette to develop building prototypes for the 2,500-acre Texas Town in the expanding area north of Dallas/Fort Worth. Larry Speck, Dean of the University of Texas School of Architecture, challenged a group of practitioners from around the country to consider orientation and use of local materials to find concepts that reflect an architecture suitable for Texas. The plan for the town, sited on the shore of a 40-acre lake, is a simple grid focusing on a town square typical of settlements planned by the Spanish settlers. Stone facades, metal roofs, and covered sidewalks lend a small-town atmosphere. The lake side of the square is anchored by a resort hotel that will provide a destination while other commercial activities are developed.



Texas Town, in the rapidly growing suburb north of Dallas/Fort Worth.

On the Gulf Coast adjacent to Galveston, the 220-acre Beachtown project by Duany Plater-Zyberk & Co. uses a modified grid to continue the flavor of the historic neighborhoods nearby. Since the project is beyond the protection of the sea wall and close to sea level, houses and other buildings are designed with a raised first floor and breakaway ground floors, another native characteristic. Near the center of the scheme is Main Street, lined with mixed-use retail and anchored at the shore with a beachfront hotel. The neotraditionalist design standards for front porches, metal roofs, and picket fences will fit in well with Galveston's Victorian vernacular. As in Texas Town, mixed-use commercial buildings will be built along with the housing to improve the chances of success in community building.

On a much smaller scale is the 38-acre Traditional Neighborhood project in the Woodlands north of Houston by Peter Brown Civic Design. Adjacent to existing town homes and a shopping center, the plan incorporates a core of narrow lots served by rear alleys, pedestrian promenades, and a small neighborhood commons. Although it includes only single-family lots, the scheme provides an example of new urbanist infill within a typical suburban district. *Gerald Moorhead*

COLORADO MINING TOWNS ARE GAMBLING ON PRESERVATION

Seven years ago Colorado voters approved a plan to bring gambling to three moribund mining towns: Black Hawk, Central City, and Cripple Creek. A percentage of the gaming receipts was to be used to restore and maintain the towns' historic buildings.

Business is now booming, especially in Black Hawk. Many of the town's Victorian buildings have, indeed, been restored, at least superficially.

But preservationists are crying foul. Eagle Gaming, owner of Black Hawk's Canyon Casino, wants to move the town's oldest building, the Lace House, in order to expand its parking lot. The company offered the town, which owns the house, nearly $3 million to move it and three other old homes 300 feet away to a "historic village." The city council approved the deal, setting the stage for a fierce battle between preservationists and developers.

Built in 1863, the house is an example of a vernacular style known as Carpenter Gothic. "It's a little jewel," said Edward G. White, Jr., AIA, who helped restore the building in 1976.

White was friends with Jack Kerouac in the 1940s and 1950s and is something of a legend in Colorado. For the Lace House restoration he enlisted the help of the late poet Allen Ginsberg. White says the house should stay put. "That's where the history happened," he says. "Anywhere else, it just becomes an exhibit."

The move seemed like a done deal until former Black Hawk mayor Frances Olson remembered a $10,000 grant from the National Park Service to help restore the house. To get the money, Olson signed a 30-year contract agreeing that the Colorado Historical Society would have to approve any changes made to the house. The society took the matter to court, and in October a judge issued a temporary injunction preventing the house from being moved until a permanent decision can be reached.

But for the preservationists, a victory in court may turn out to be a Pyrrhic one at best. Eagle Gaming says if it can't move the Lace House, it will build the new parking lot around it.

"Even if the building stays where it is, it's going to look awful," admits Lane Ittelson of the historical society. "And when the contract expires in 2006, Black Hawk can tear it down, if that's what they want to do." *David Hill*

Preservationists battle casino owners over relocation of the Lace House, a historic structure in the former mining town of Black Hawk, Colorado.



Family Portrait



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CIRCLE 21 ON INQUIRY CARD

NEWS BRIEFS

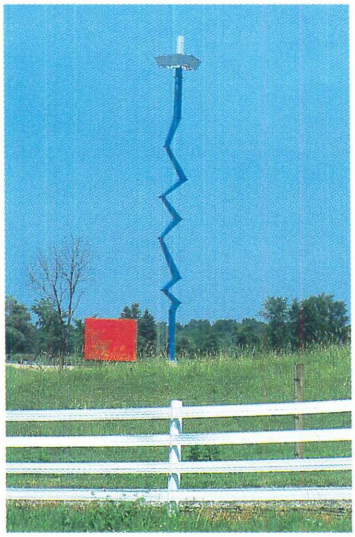
Yale names architect for art school building The office of Deborah Berke, AIA, has been selected to design a building for Yale University's School of Art, to be located at 1156 Chapel Street. The site, formerly occupied by the Jewish Community Center, was purchased by the University in December 1996. The project is expected to be completed by the spring of 1999. Berke is an associate professor of architectural design at Yale, where she has been on the faculty since 1987.

The healing environment that lived in a shoe Enhancing children's awareness of the link between health and the built environment is the goal of the ShoeBox Adventure, part of the Tenth Symposium on Healthcare Design, held November 20–23 in San Diego, California. One thousand fourth graders will assemble at the San Diego Children's Museum to design shoebox-sized healing environments for exhibition at the symposium. The museum will host a reception for the project on Friday, November 21. The shoeboxes will not be graded, according to Annette Ridenour, chairperson of the Local Host Committee, but trends and themes that emerge will be discussed.

Architects hold a virtual debate "Excellence in Design Online" featured Peter C. Pran, AIA, of NBBJ, William Pedersen, Jr., FAIA, of Kohn Pedersen Fox Associates, and Graham Gund, FAIA, of Graham Gund Architects, in a virtual lecture series about the impact of Internet technologies on the future of design. Sponsored by Autodesk, Inc. and Cornish Productions, the four-part series included a real-time question-and-answer session and a virtual tour through design drawings. Highlights of the event can be found at www.autodesk.com and www.cornishproductions.com.

Lightning strikes in Michigan What telephone poles were in the past, cellular-phone relay towers are today. They dot the landscape, where they are placed to satisfy transmission requirements, not aesthetics. When Airtouch Cellular sought to build a tower in Ann Arbor, Michigan, their site fell in the midst of Domino's Pizza World Headquarters. Domino's President, Tom Monaghan, agreed to lease the land on the condition that the tower be designed by Gunnar Birkerts, FAIA, the architect for the pizza company's complex. The result: a cobalt blue steel tower shaped like a bolt of lightning, metaphorically connecting the earth to the sky.

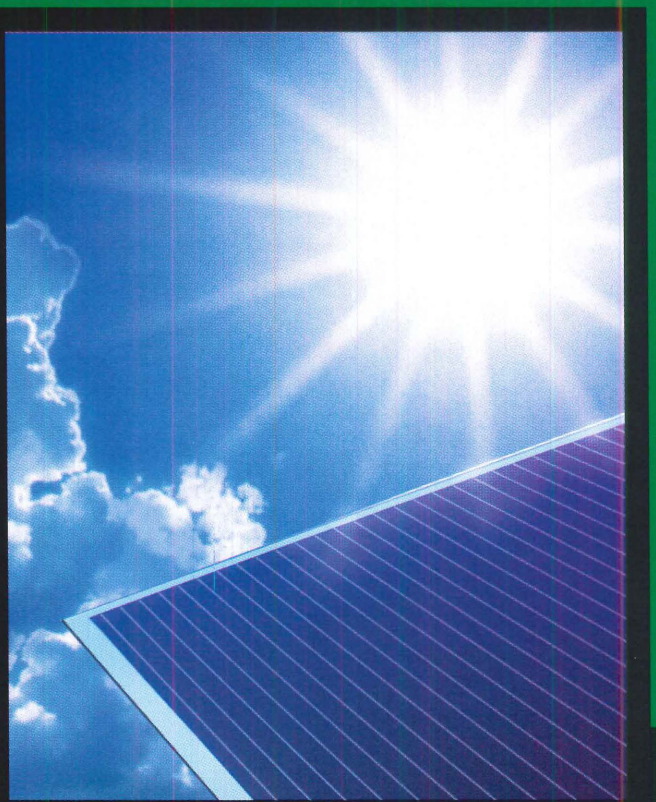
Cellular tower, Ann Arbor, Michigan, designed by Gunnar Birkerts, FAIA.



Future shock What form will the work surface of the future take? The question was posed in a competition for under-forty-something design professionals by the Young Architects Committee of AIA Chicago. The answers say a lot about the future of work. First place went to Mark Gee of Venice, California, for a combination drafting screen, multiple input stylus, view control remote, and goggles designed to facilitate three-dimensional design. Keith Moskow of Boston took second place with an earth-berm lawn chair that provides

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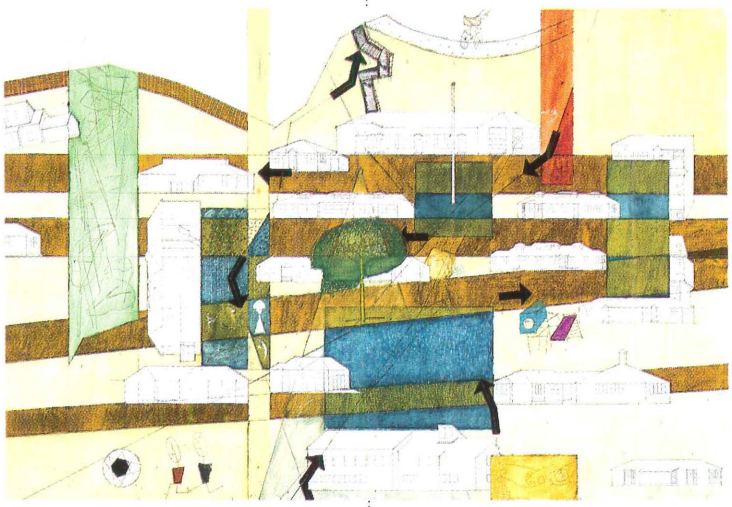
We're not here to explain the benefits of solar energy.



Solar Energy (by BP)

a place to connect with nature as you work. Third place went to The Flip 360 by Robert Chambers and Paul Somers of Chicago, a desk that folds into itself for home office use and other places where space is at a premium.

Research consortium formed Ten workplace industry leaders recently joined to create the Center for the Built Environment (CBE) at the University of California's Berkeley campus. The consortium will provide resources for building-related research. Initial efforts will focus on building performance evaluation and new technology. The CBE plans to develop new tools to evaluate occupant satisfaction, indoor environmental quality systems, operating conditions, and energy efficiency. Participants include the International Facility Management Association, the Bank of America, Herman Miller, Inc., the U. S. Department of Energy, and the U. S. General Services Administration.

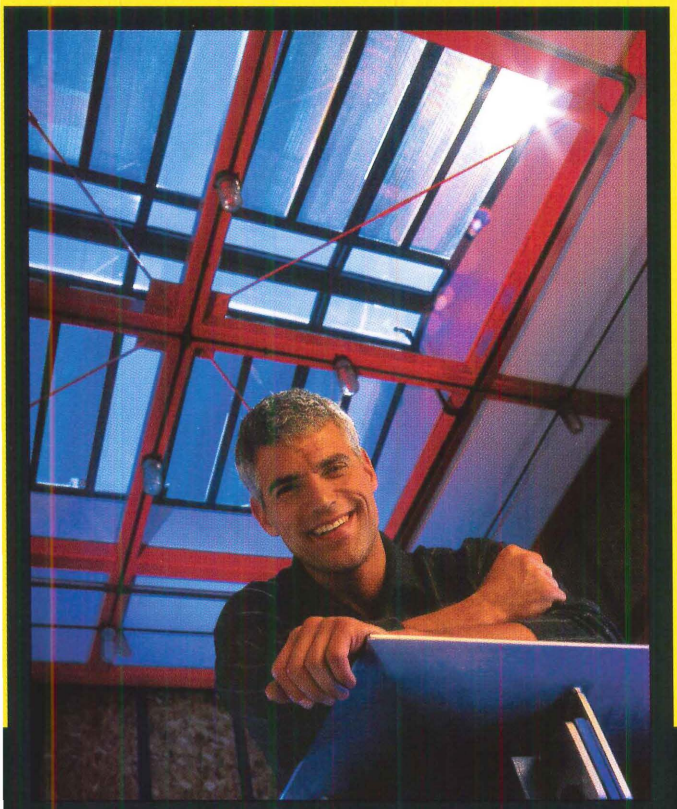


Rendering of Shaker-inspired Shady Hill School, Cambridge, Mass.

Shaker village inspires school design The Shady Hill School of Cambridge, Massachusetts, consists of one-story classroom buildings loosely organized around a series of greens. When Perry Dean Rogers & Partners Architects were commissioned to expand the campus, they turned to an 1836 rendering of a Shaker village for inspiration on how to integrate a new upper school into this tightly knit educational village. The program calls for the replacement of three buildings and the renovation of a fourth to house 12 classrooms and related support functions.

Ellerbe Becket to appeal ADA ruling Ellerbe Becket, Inc. will appeal a federal judge's decision that paves the way for a U.S. District Court in Minnesota to determine if architects can be held liable for their designs under the Americans With Disabilities Act. On September 30 Judge John R. Tunheim denied the architect's request to dismiss a lawsuit brought by the Justice Department. The government alleges that six arenas designed by the firm are not in compliance with the ADA and that architects, like project owners, are responsible for compliance with the law.

From warehouse to museum in North Dakota The former home of the International Harvester Corp. in downtown Fargo, North Dakota, was transformed into the Plains Art Museum by Hammel Green and Abrahamson, Inc. of Minneapolis. The challenge was to take a structure with very little heat and humidity regulation and create within it an environmentally controlled core for storage, preparation, and exhibition of works of art. ■



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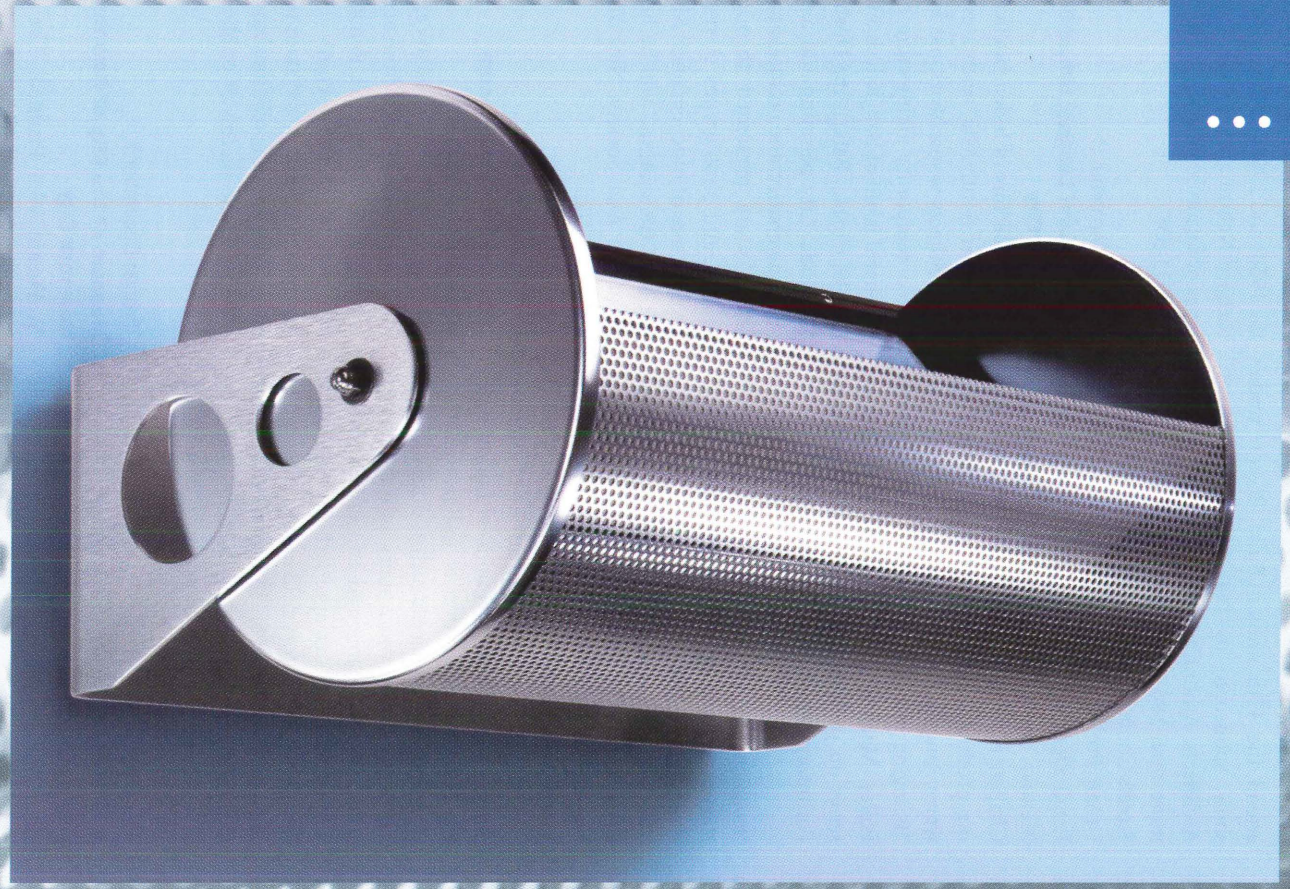
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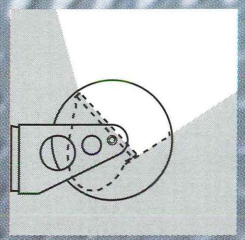
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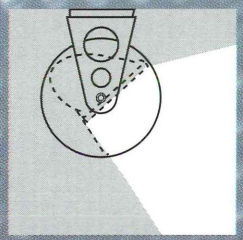


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CIRCLE 24 ON INQUIRY CARD

Calendar

November 3–28
Gund Hall Gallery, Harvard University
Cambridge, Massachusetts
"Dan Kiley, Landscape Architect: The First Two Decades," presented by the Harvard University Graduate School of Design, covers early works by the legendary designer. In conjunction with the exhibition, a symposium is scheduled for November 14. For further information, call the GSD Office of Lectures and Exhibitions at 617/495-4784.

November 6–December 5
Arthur A. Houghton, Jr., Gallery,
Cooper Union
New York City
"Joze Plecnik and the Prague Castle" documents the proto-postmodernist architect's extraordinary 15-year renovation of a pre-Romanesque Czechoslovakian castle. The fortress was destroyed and rebuilt several times before being resuscitated by the leader of the country's short-lived democracy, President Masaryk, in 1920. Call 212/353-4232.

November 11–January 18, 1998
American Craft Museum
New York City
"Four Acts in Glass: Installations by Chihuly, Morris, Powers, and Vallien" presents the work of four artists who have moved beyond the making of glass objects to examine the medium in larger spatial, architectural, and theatrical settings. For the exhibition Dale Chihuly, William Morris, Pike Powers, and Bertil Vallien have created site-specific installations that encompass all of the galleries of the museum, including a multistoried glass structure in the atrium. Call 212/956-3535.

November 12–December 19
Van Alen Institute
New York City
"Designing Islands: The Public Future of New York's Archipelago" offers the first New York showing of entries from "Ideas Afloat," an international competition for the design of Davids Island (off New Rochelle). It also places the entries in the context of design initiatives for New York's other islands, including projects for Governors Island and Randall's Island. Call 212/924-7000.

November 12–March 1, 1998
Philadelphia Museum of Art
Philadelphia
"Philippe Starck Designs/Reinventing the American Hotel" provides a sampling of the French designer's objects and interiors, featuring everything from furniture to utensils. Also on view will be elements from a guest room at the Paramount Hotel. Call 215/763-8100.

November 18–20
World Trade Center
Boston
More than 8,500 architects, engineers, builders, contractors, facilities managers, specifiers, and other industry professionals are expected to attend the 13th annual Build Boston trade show, sponsored by the Boston Society of Architects. Among the topics to be covered in more than 180 workshops are "Making Main Streets Come Alive: Solutions for Street Trees in Urban Projects," "Multimedia Innovations in Retail Design," "What Getting 'Wired' Really Means," and "Firestopping: Changes and Challenges." More than 250 suppliers of building products and materials will present their wares. Among the event's other presentations is "Bringing the Past into the 21st Century: Policy, Materials, and Systems," a conference series on preservation and restoration issues. For information, call 800/544-1898.

November 19
National Institute of Building Sciences
Washington, D.C.
The use of sustainable building insulation materials will be the focus of discussions at a one-day symposium sponsored by the Building Environment and Thermal Envelope Council (BETEC) of the National Institute of Building Sciences. Presenters will address findings and the practical application of indigenous, recycled, and waste materials such as pumice, flyash, sawdust, perlite, wood fibers and agricultural straw for sustainable and efficient insulation. Topics include design approaches, construction techniques, laboratory field testing, case studies, and code issues. For information, call Pat Cichowski at BETEC at 202/289-7800; fax 202/289-1092; or E-mail pcichowski@nibs.org.

November 20–23
San Diego Hyatt Regency Hotel
San Diego, California
Educational sessions and a new-product exhibition will be offered at the Center for Health Design's Tenth Symposium on Healthcare Design. Contact Center for Healthcare Design, 4550 Alhambra Way, Martinez, Calif. 94553; call 510/370-0345; or E-mail CTR4HD@aol.com.

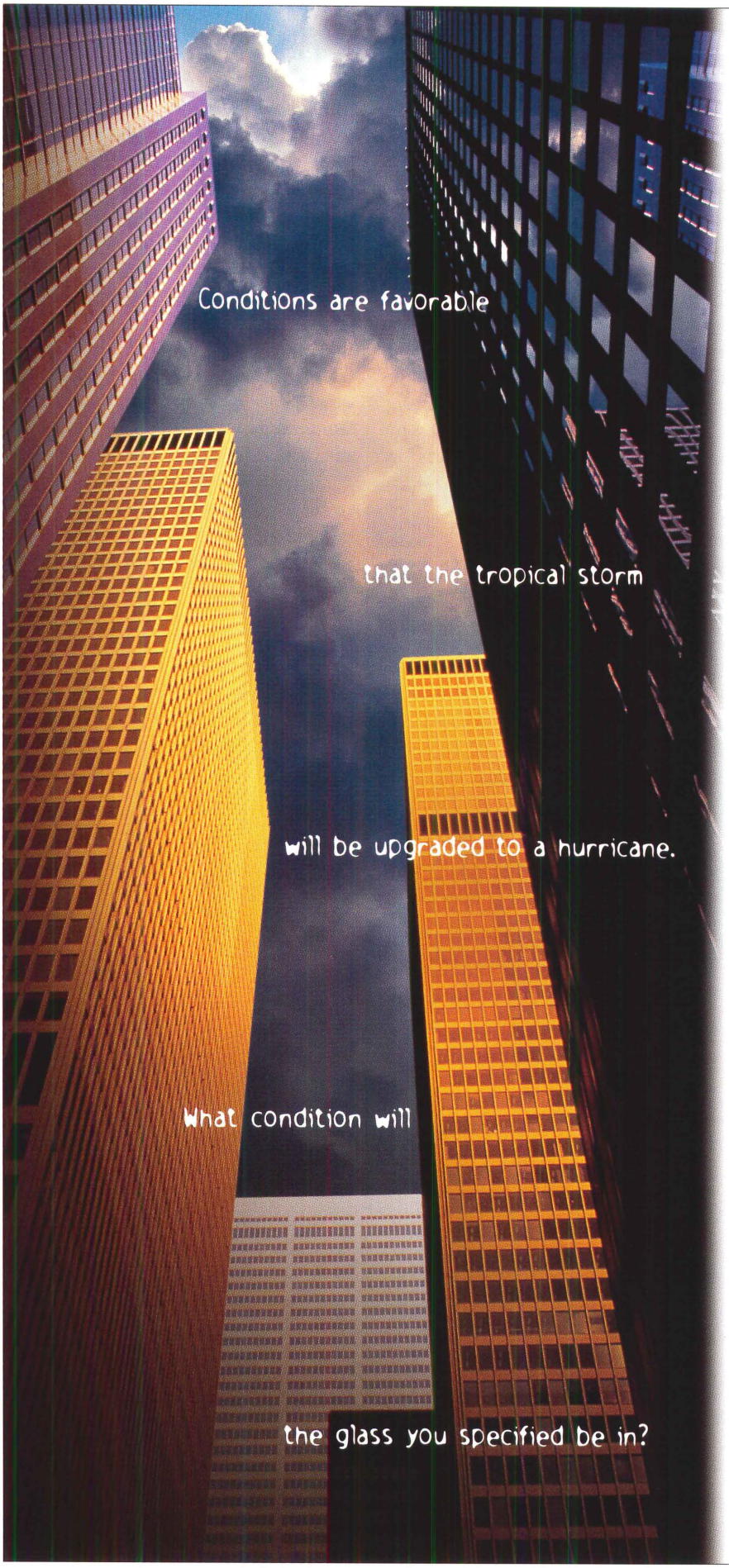
Through November 25
Chicago Architecture Foundation
Chicago
"SOM at Sixty" displays more than 200 building models of projects by Skidmore, Owings & Merrill from the last 15 years, documenting the Chicago-based firm's design process. Call 312/922-3432.

Through November 29
Couturier Gallery
Los Angeles
Architectural renderings produced primarily in the 1950s and 1960s by the modernist architect Richard Neutra are on view, as well as prototypes of furniture he designed in the 1930s. Call 213/933-5557.

Through December 3
Architectural League, Urban Center
New York City
"An Architecture of Independence: The Making of Modern South Asia" celebrates four pioneering architects whose work has largely defined the contemporary architecture of South Asia: Muzharul Islam of Bangladesh and, from India, Charles Correa, Balkrishna Doshi, and Achyut Kanvinde. City planning and residential projects, universities, and cultural and institutional facilities are presented through drawings, models, and photographs. A symposium, "An Architecture of Independence: Modernism and the Next Generation," will be held November 15 at the Asia Society, New York City. Call 212/753-1722.

Through December 7
National Building Museum
Washington, D.C.
"Sheltered by Design" presents exemplary low-income housing projects from across the country, including Cleveland's Renaissance Village and Boston's Harbor Point. Through photographs, renderings, and floor plans, the exhibition illustrates the relationship between good design and the success of public housing. Call 202/272-2448.

Through December 7
Museum of the City of New York
New York City
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CIRCLE 25 ON INQUIRY CARD

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December 9–January 17, 1998
Storefront for Art and Architecture
New York City
An exhibition of projects by Gordon Kipping documents his work revitalizing urban structures, particularly on New York's Lower East Side. Call 212/431-5795.

December 11–February 8, 1998
Municipal Art Society
New York City
"The Bronx Community Paper Company: Designing Industrial Ecology" chronicles the design evolution of a state-of-the-art recycling plant and paper mill by New York architect Maya Lin. Call 212/935-3960.

December 12–January 24, 1998
Architectural League, Urban Center
New York City
The work of 20th-century modernist Charlotte Perriand, who began her career working in collaboration with Le Corbusier and Pierre Jeanneret on interiors and furniture, is the focus of a retrospective exhibition. Furniture, lighting, and photographs will be displayed. Call 212/753-1722.

December 19–March 10, 1998
San Francisco Museum of Modern Art
San Francisco
"Zaha Hadid: Painted Projects" is the first solo museum presentation of the work of the Iraqi-born British architect. The exhibition includes two dozen of the architect's paintings, which depict cities and buildings in assemblages of exploded lines and planes. Her competition-winning designs for The Peak Club in Hong Kong and the controversial first-place scheme for the Cardiff Opera House in Wales are among the works on view. Call 415/357-4000.

Through December 28
Orange County Museum of Art
Newport Beach, California
"Frank Lloyd Wright: Designs for an American Landscape" explores five little-known visionary projects by the architect. More than 150 drawings from the Frank Lloyd Wright Foundation and the Library of Congress are included. Call 714/759-1122.

Through December 31
Baltimore Museum of Art
Baltimore
Paintings and decorative arts objects by Baltimore artists, silversmiths, and cabinetmakers completed between 1790 and 1820 are on view in "Celebrating Baltimore's Birthday." The exhibition honors the 200th anniversary of the incorporation of the City of Baltimore and inaugurates the reopening of the museum's John Russell Pope building. Call 410/396-7100.

Through January 4, 1998
Fogg Art Museum, Harvard University
Cambridge, Massachusetts
"Rome and New York: A Continuity of Cities," an exhibition of prints from Piranesi to the 20th century, examines Rome's image as an ancient center of power and religion and New York's as the epitome of the modern city. It also demonstrates how each city has at times embodied the qualities associated with the other. Call 617/495-2397.

Through January 4, 1998
Katonah Museum of Art
Katonah, New York
"Toying with Architecture: The Building Toy in

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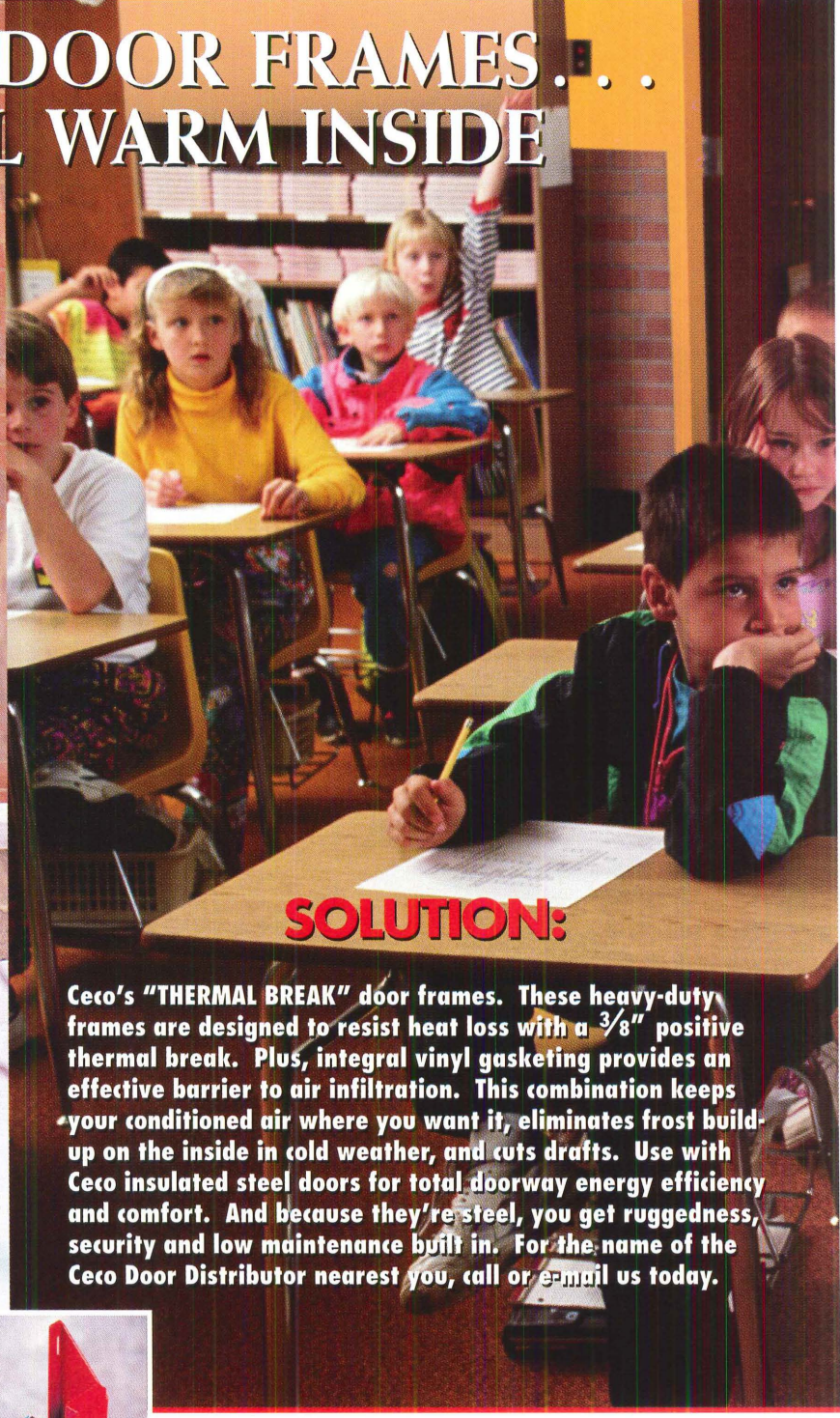
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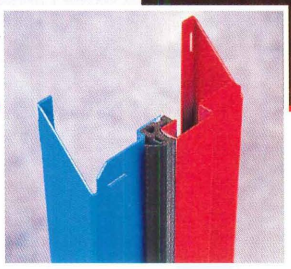


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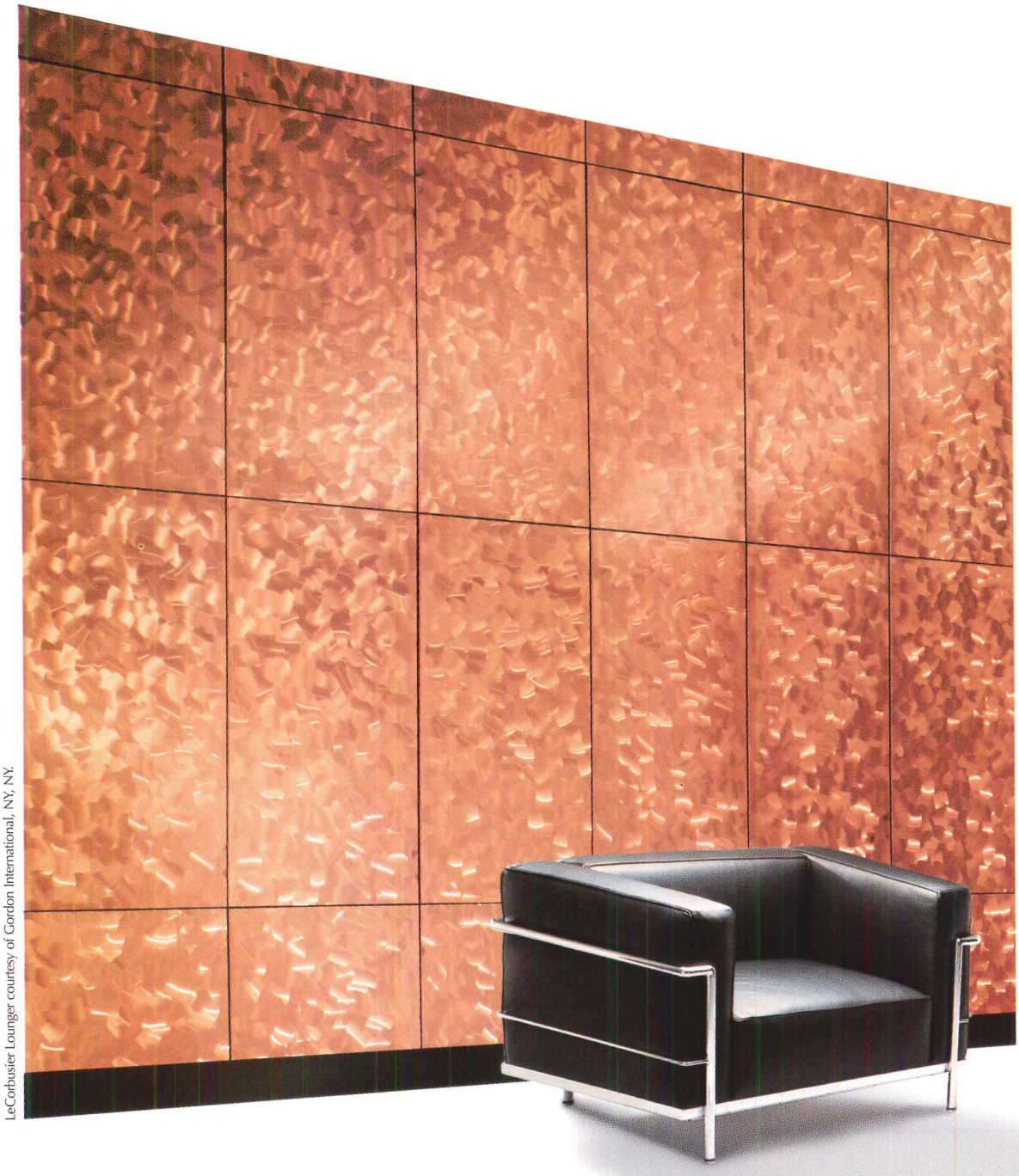
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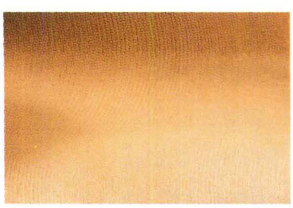
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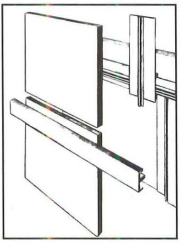
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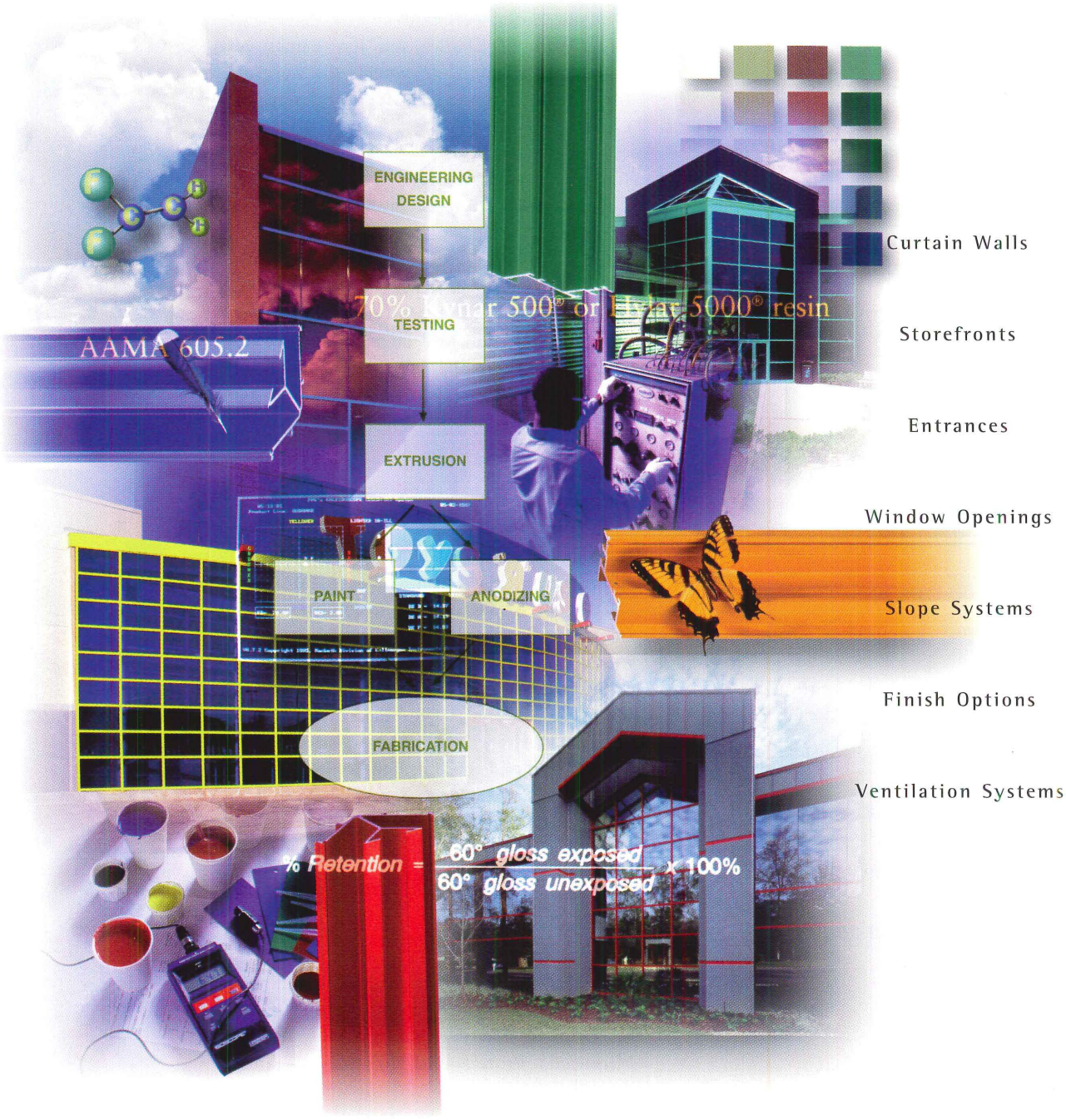
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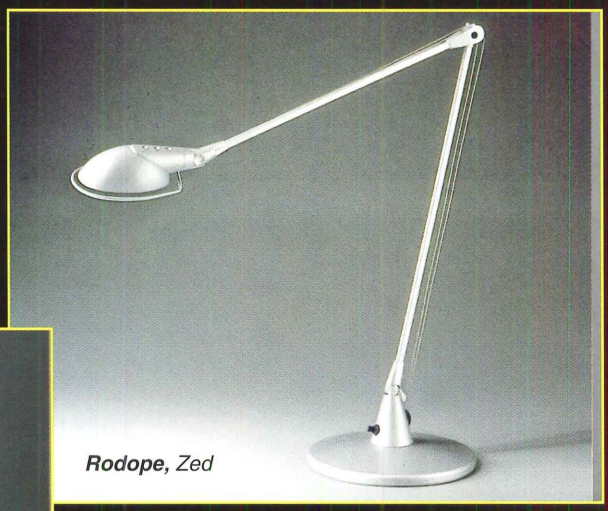
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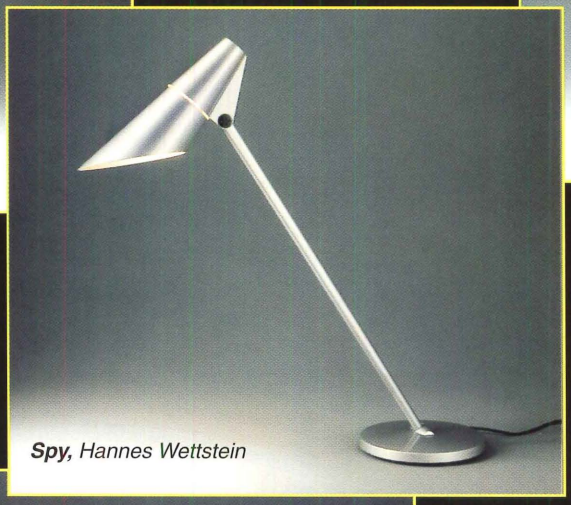
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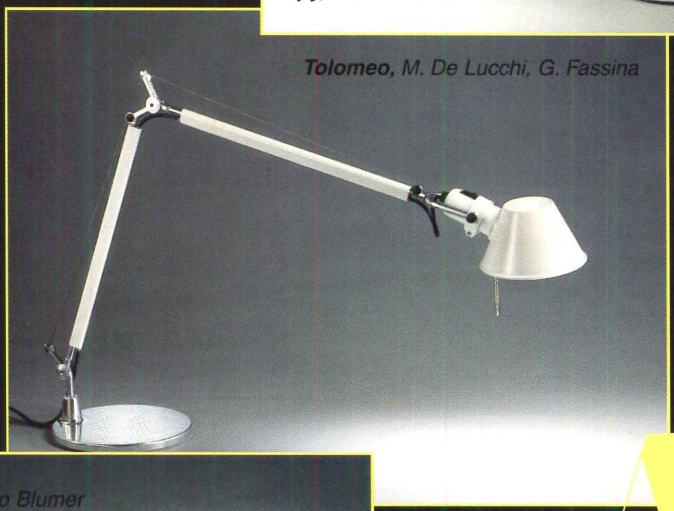


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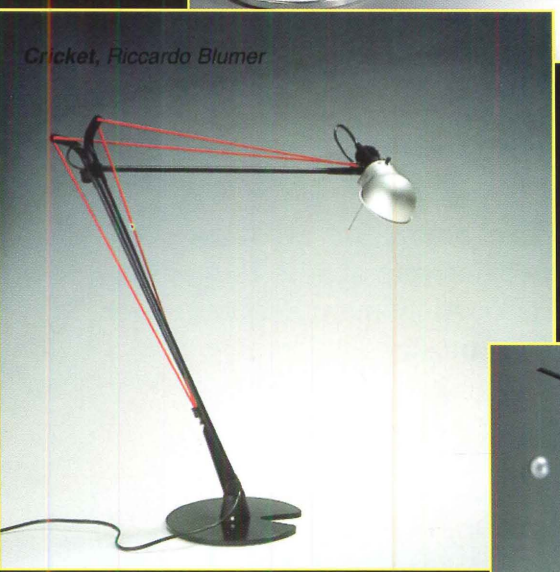
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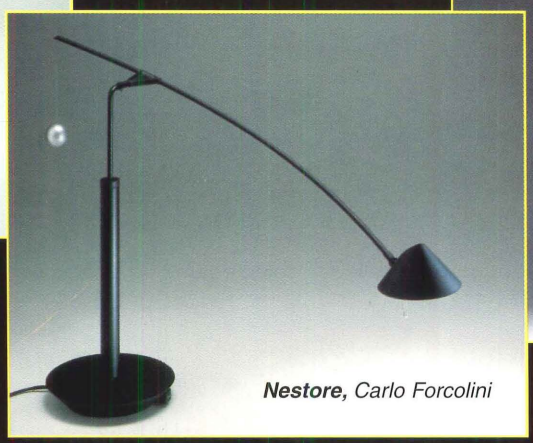
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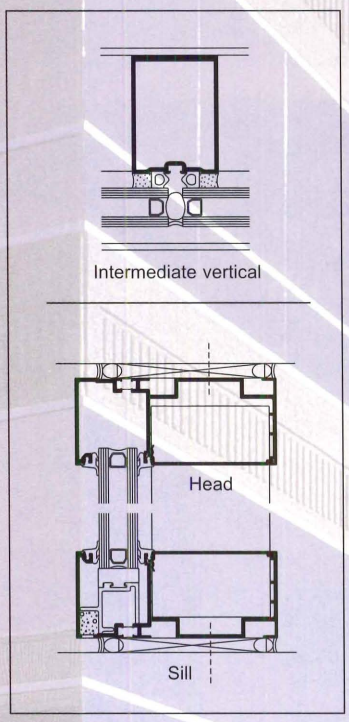




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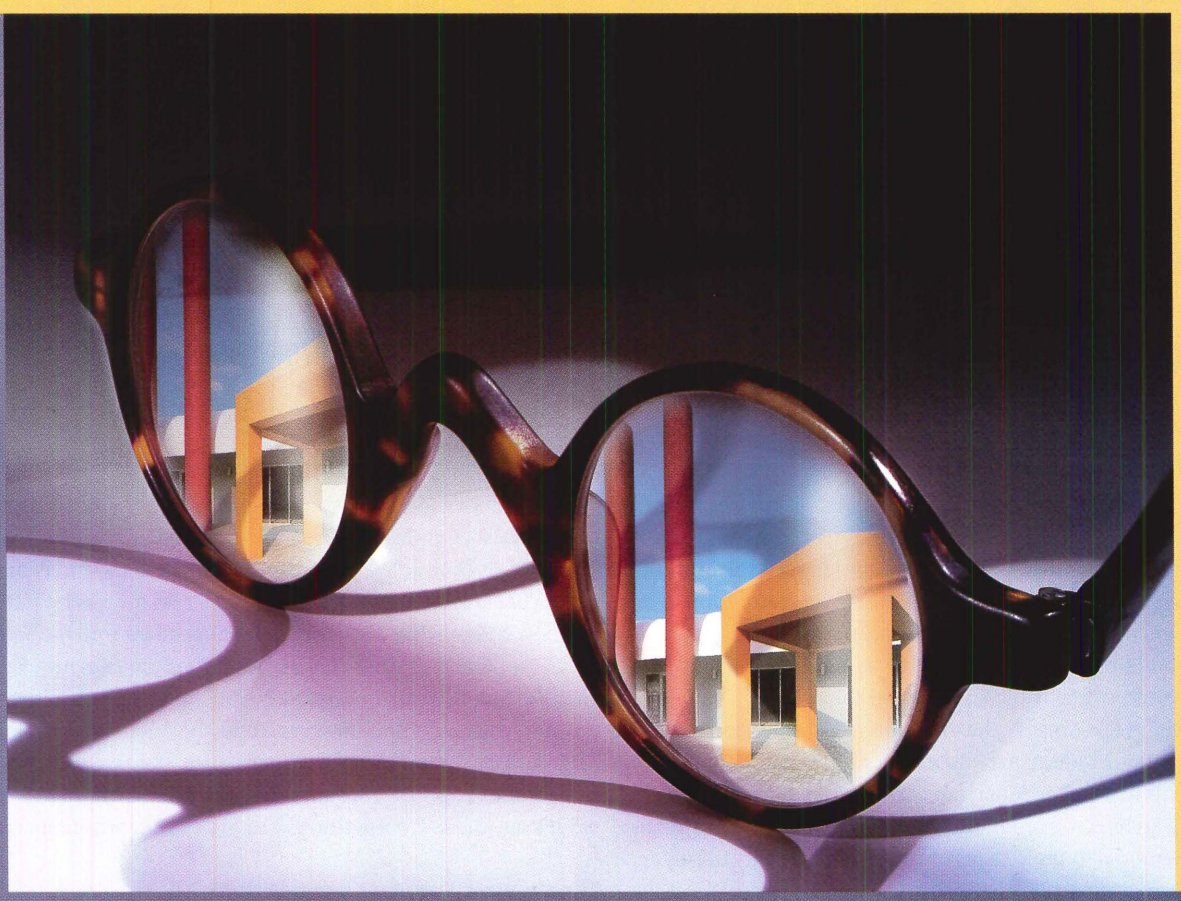
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CIRCLE 32 ON INQUIRY CARD

Playing the Competitions GAME

DESIGN COMPETITIONS GENERATE A LOT OF PUBLICITY. BUT ARE THEY WORTH THE EFFORT?

by David Dillon

Nineteen ninety-seven may be remembered as the year of the competition, or at least the year when competitions made more architectural news than anything else. In January, the Museum of Modern Art (MoMA) in New York City announced an international designer bake-off for the renovation and expansion of its West 53rd Street building, with the winner to be named—perhaps—in December. That would coincide bicoastally with the opening of Richard Meier's Getty Center in Los Angeles, the most coveted competition prize of the 1980s. In May, the Modern Art Museum of Fort Worth presented Tadao Ando with his first major American commission, only a few weeks before three young architects from Berlin won the international competition to design a memorial to the victims of the Oklahoma City bombing.

The winning proposal for the World War II Memorial on the mall in Washington, D.C., by Friedrich St. Florian, received the same angry critical reception as the neighboring Franklin Delano Roosevelt Memorial, which opened in May, a mere 23 years after Lawrence Halprin won the final competition. Major competitions are under way for a new student center at the Illinois Institute of Technology in Chicago, across from Mies van der Rohe's Crown Hall, and a new campus for the University of San Francisco, as well as for assorted new towns, town centers, and government buildings around the country.

While nobody is keeping score, the consensus is that 1997 has been a very big year for competitions.

Bottomless optimism or hopeless naivete

"It's surprising and somewhat anomalous," says architect Donald Stastny of Portland, Oregon, a professional advisor on Oklahoma City and other major competitions. "Usually you see a lot of competitions when the economy is bad. In good times you may pick up the young firms that don't have a lot of work. But this year even the stars are participating." Whether this is evidence of bottomless optimism or hopeless naivete is unclear. Enthusiasts consider competitions an essential tool for raising public awareness of good design while also bringing young talent into the spotlight.

"Competitions that are well done are enormously beneficial to the profession," explains architect Paul Spreiregen, another professional advisor whose competitions include the Vietnam Veterans Memorial. "Because of the power of the magazines, the real breadth of American design doesn't get the recognition it deserves. We have a distorted view of what's out there. Competitions can present the whole spectrum."

The argument against competitions

Robert Venturi, speaking for the disaffected wing of the profession, compares architectural competitions to doctors prescribing for patients they haven't examined. "Good buildings emerge only after extensive dialogue with a client, and that is difficult to have in most competitions these days. Many are determined by advisors who haven't made it as architects and try to make themselves look good by making your life miserable. You're expected to arrive at an answer before the client has even formulated the question."

An informal AIA survey several years ago showed architects evenly split on the value of competitions. Yet the division had nothing to do with the age of the architects, the size of the firm, or the kind of work they did.

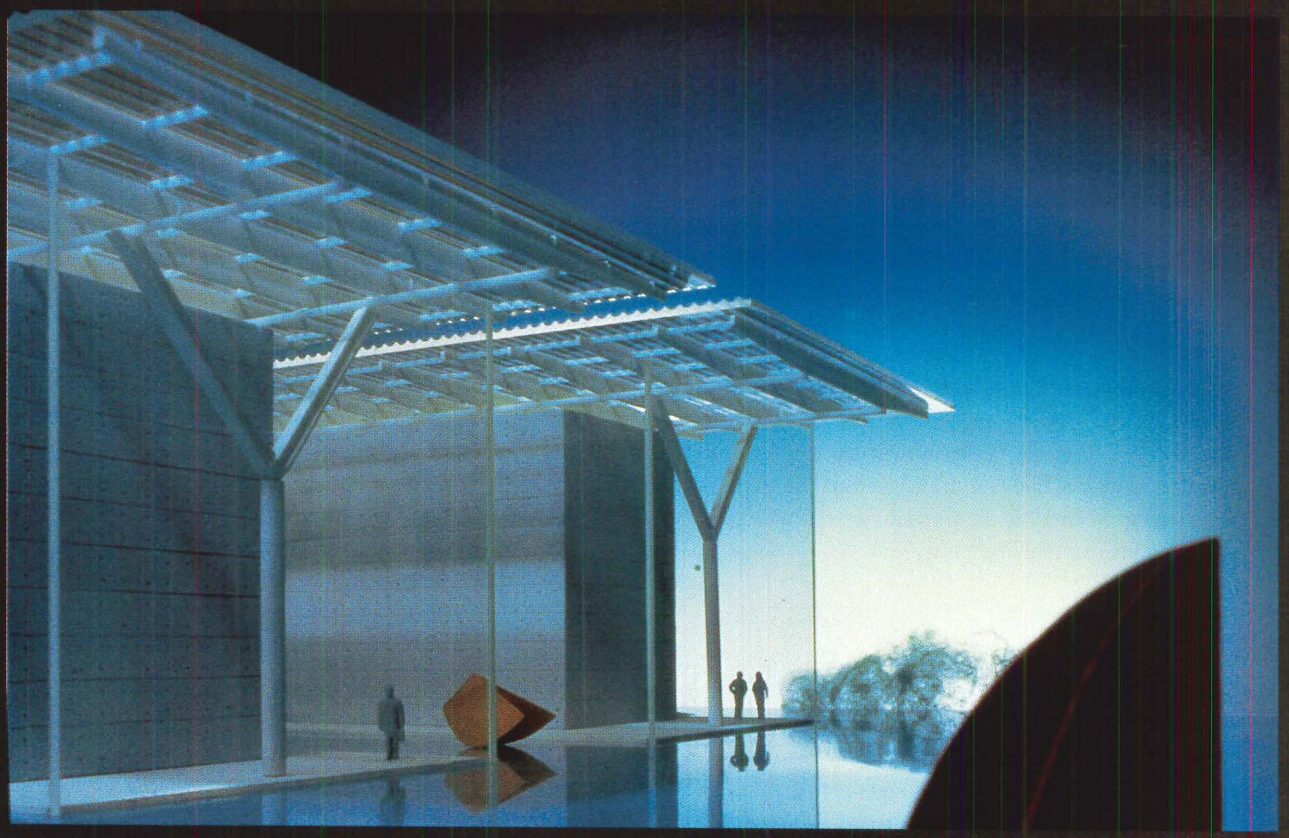
IF LOCAL COMPETITIONS PROVIDE MAJOR OPPORTUNITIES FOR YOUNG ARCHITECTS, THE SPLASHY INTERNATIONAL ONES CAN BE SWAMPS OF POLITICAL INTRIGUE.

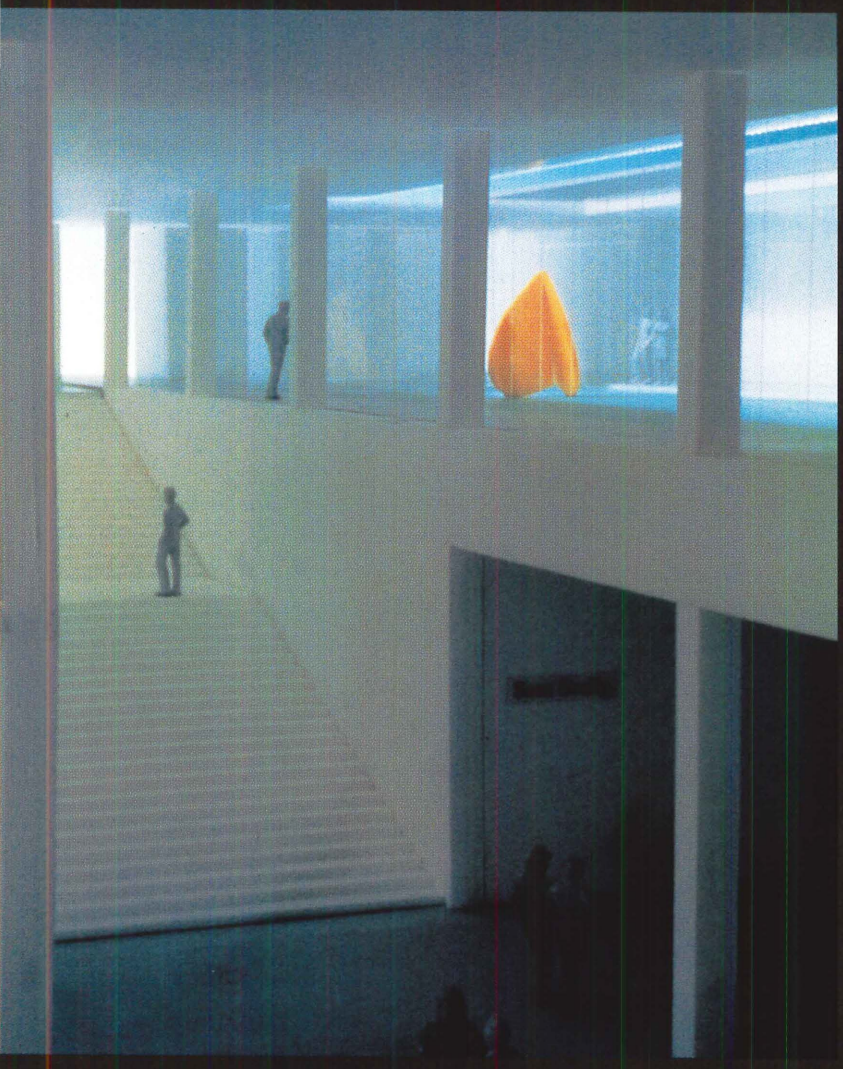
Such ambivalence is rare in Europe, where competitions are both a way of life and an instrument of public policy. Libraries, schools, daycare centers, bus stations, virtually every public project is fodder for competitions. Many are restricted by region, town, even neighborhood to give local talent a chance. Alvar Aalto's first public commission, a bus shelter in Helsinki, was won by competition. The enduring legacy of the 1992

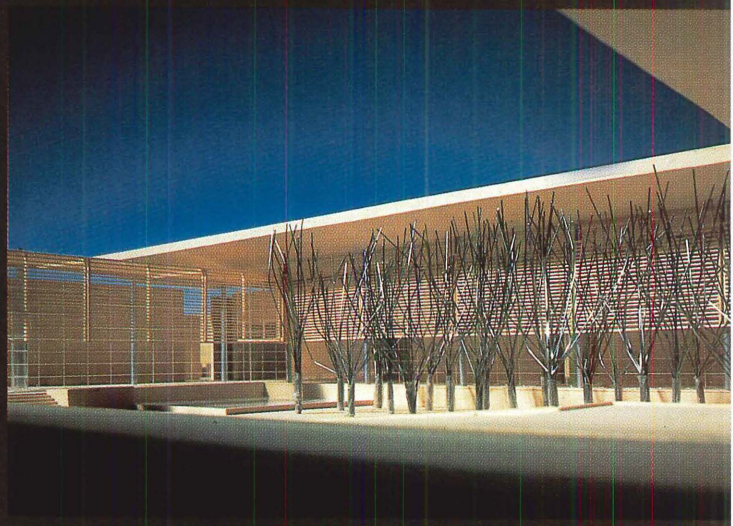
Contributing Editor David Dillon is the architecture critic for the Dallas Morning News *and has written a book on the FDR Memorial, which will be published by Spacemaker Press in 1998. He is also the author of the new plan of Washington, D.C.*

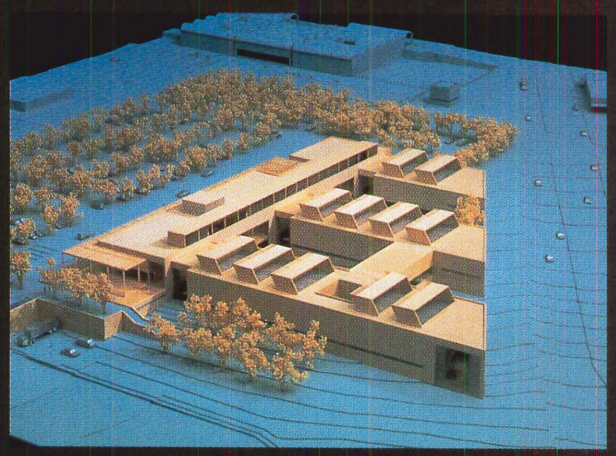
PHOTOGRAPHY: COURTESY OF THE MODERN ART MUSEUM OF FORT WORTH

Winning the competition for the Modern Art Museum of Fort Worth, Tadao Ando earned his first freestanding commission in the U.S. Model shots show what Ando designed for the museum (right and below left). Among the other entries were schemes by Richard Gluckman (below right) and Carlos Jimenez (bottom right).







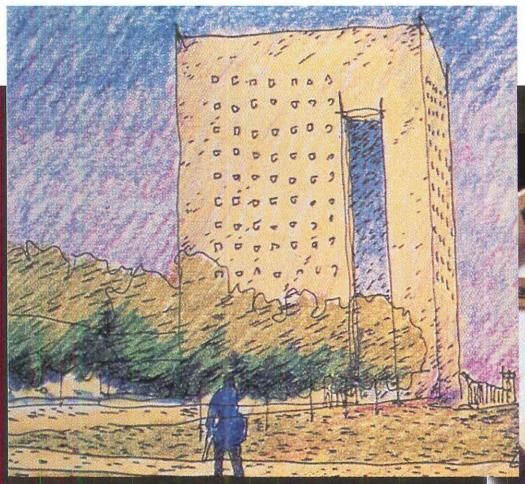


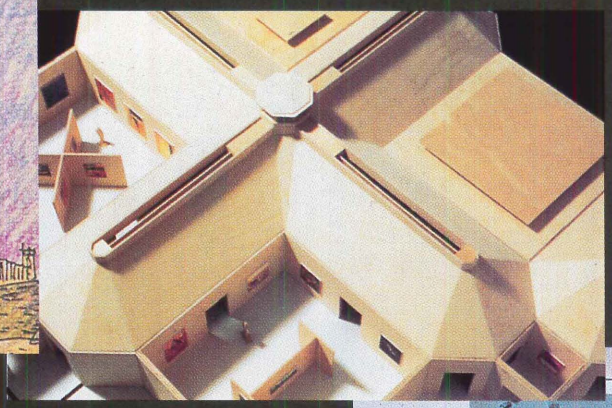
Barcelona Olympics lies not only in the monuments by imported designers but also the dozens of plazas, soccer fields, and marinas created by home-town architects. The games enfranchised an entire generation of local practitioners.

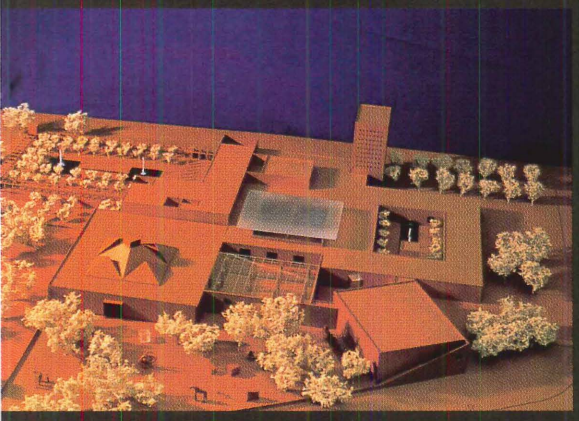
But if local competitions provide major opportunities for young architects, the splashy international ones can be swamps of political intrigue in which jury decisions are capriciously overturned by outside forces.

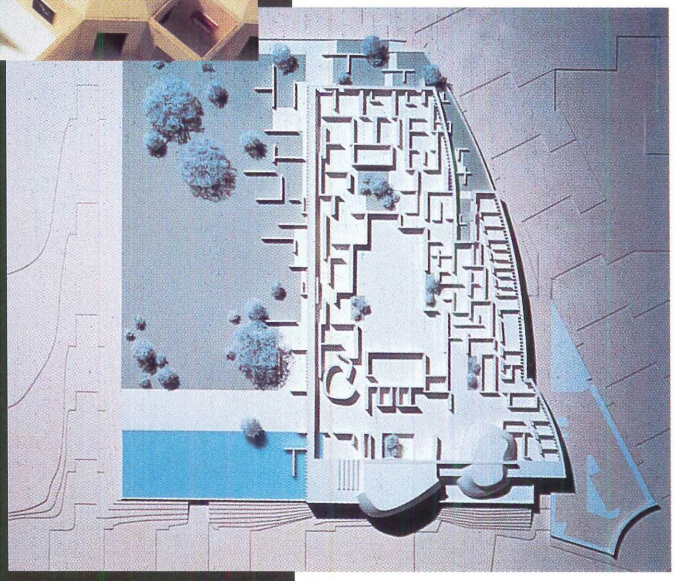
An international fiasco in Berlin

Consider the 1988 competition for an addition to the American Memorial Library in Berlin, which went three rounds, produced two winners, plenty of bad blood, and no building. And it was a *goodwill* competition, sponsored by the German government to repay Americans for building the original library in 1950.









The runners-up in the Fort Worth competition included Ricardo Legorreta (left and above left), David Schwarz (above), and Arata Isozaki (right).

The first jury named three co-winners: Steven Holl, Lars Lerup, and Karen Van Lengen, all of whom were asked to revise their schemes for a second round. Holl emerged as the unanimous choice, until Berlin's minister of buildings, Wolfgang Nagel, voided the results on the grounds that Holl's design was unbuildable and unresponsive to community needs.

Nagel then called for a third round, with a planning and urban design component, which was won by Van Lengen. "It was all corrupt," says Holl. "I felt like I was being robbed. If an international board had overseen it, the competition would have been rejected." Holl considered suing, and also tried unsuccessfully to persuade the other finalists to boycott the third round. Van Lengen, now chair of the architecture department at Parsons School of Design, worked three years on the project, only to be overtaken by events.

Communism collapses, and so does a competition

"The whole situation changed when the wall came down," Van Lengen says. "The original library was a symbol of Berlin's resistance to Communism. Suddenly, unification with the East became a priority. We couldn't move fast enough to keep up."

Though still bitter about the outcome, Holl remains a supporter of competitions. "I wouldn't negate the whole process just because of a few corrupt politicians." Lerup, who says Holl did his share of politicking too, isn't quite so sanguine. "My sense is that the big competitions have always been manipulated, more or less openly. "I'll never do another one unless the client has the check written before I show up."

America sponsors fewer competitions, and most tend to be for glamour projects—museums, city halls, national memorials—that can make careers or at least produce years of free publicity for competitors through books, lectures, exhibitions, and interviews.

Michael McKinnell was only 26 when he and his partner Gerhard Kallmann won the 1962 Boston City Hall competition. It made them overnight stars and shaped the course of their practice. "Everything was determined by that one event," says McKinnell, now 61. "We could neither ignore it nor do without it. It gave our practice a tremendous jump start, yet when you start your career with something so large and prominent you're immediately typecast as doing a particular scale and style of building. It took a painfully long time before we could get a small project in the office. I've only just completed my first house."



Michael Morris and Yoshiko Sato, New York City

Michael Morris and Yoshiko Sato are following the path of hundreds of aspiring young architects in New York, Los Angeles, and other design-saturated cities. They teach—at Parsons School of Design—do exhibitions and installations, and enter competitions. Idea competitions, portfolio competitions, competitions sponsored by institutes and foundations. Both have won Paris Prizes from the National Institute for Architectural Education, and have done well enough in other competitions to garner a bit of publicity, more invitations, but so far no work.

"Competitions have helped us focus our energy and develop a philosophical direction in our architecture," explains Sato. "They're also tools for getting grants, which produce research, which leads to teaching jobs. It's all interconnected.

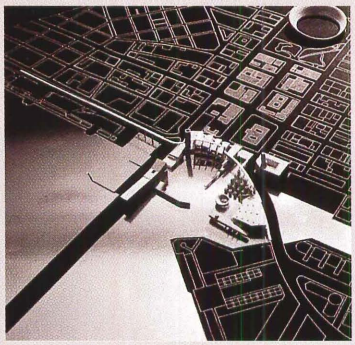
Morris, 35, and Sato, 36, met as students at Cooper Union and became partners in 1991. They share an interest in light as both a physical and theoretical resource and have made it the subject of several projects and exhibitions. They also admit to being jealous of their European counterparts, who generally have an easier time getting major commissions. Morris recently renewed his Irish/EU passport in hopes of opening doors abroad.

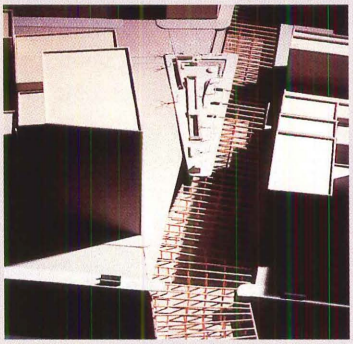
"In New York, you have so much less opportunity to build something freestanding," says Sato, "whereas in Europe a young architect with some hard work and good fortune has a chance of designing something significant before 35."

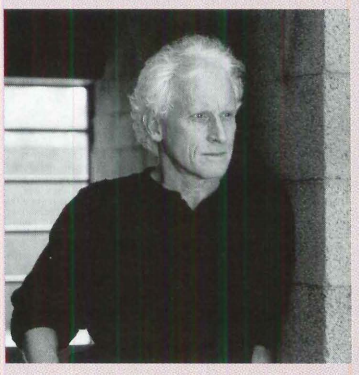
Morris and Sato have recently completed an addition to a Manhattan penthouse, their first "above-ground" project, and are collaborating with artist Jodi Pinto on a footbridge for the Central Artery project in Boston and another in San Antonio. This recent spurt of work has allowed them to strike what they consider a healthier balance between competition and practice.

"The competition format reduces the scope of what you can make visible," says Morris. "So many issues of construction can't be described in broad graphic strokes. So now we use competitions to test the ideas we come up with in the studio at a larger scale. They've become a supplement to our practice instead of the focus." *D.D.*

Morris and Sato's competition entries for the Yokohama waterfront (left) and Petrosino Park (right).







Antoine Predock, Albuquerque, New Mexico

In the 1980s, Antoine Predock was a respected regional architect, pushing 50, with a number of impressive houses and institutional buildings to his credit, but nothing big and virtually nothing outside New Mexico. So in 1985 he and his team, all six of them, decided to bet the hacienda by entering the competition for the Nelson Art Center at Arizona State University. It was larger than anything the firm had done, with a complex program, and comparatively far from home.

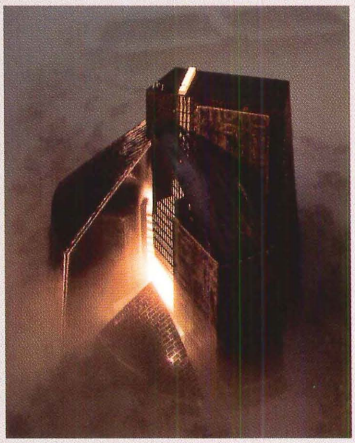
"It was all or nothing," Predock recalls. "We didn't worry about the hours or the costs, although we realized that if we lost we'd probably be designing gas stations." But they won, beating out Edward Larrabee Barnes, Arthur Erickson, and several other international firms. More competition wins followed: The American Heritage Center in Laramie, Wyoming, the Las Vegas Library and Children's Museum, the Laboratory and Administration Building at CalTech, Pomona.

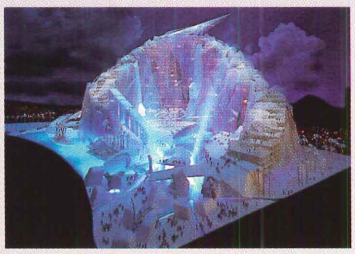
"Mr. Adobe" suddenly became "Mr. Competition," a fixture on the national lecture circuit, profiled in *Vanity Fair*, courted by prestigious clients, including Disney. The Albuquerque office swelled to 40, with a branch in Los Angeles.

Predock has mixed feelings about his manic "L.A. phase," but not about the decision to roll the dice in competitions. "Competitions bring out unexpected qualities in the work," he says. "It's a totally different situation from sitting across the table from a client. The anonymity of the process introduces elements of danger and risk-taking that help make a critical practice possible."

Predock continues to enter competitions, wins his share, but has become more selective. No open competitions. No competitions without stipends, or that lack what he terms "investigative potential." But he still relishes the electricity generated by competitions and its ripple effect on his other work. The faceted glass skin of his entry in the Atlantis Hotel and Casino competition (which was never built) reappears in the entrance and lobby of the Spencer Performing Arts Center in Ruidoso, New Mexico, which opened October 4. The dramatic wedge and intersecting volumes of the Las Vegas Library show up in his new Mesa Public Library in Los Alamos, New Mexico. And he expects to find a place for the metal exoskeleton of his recent submission for the National Archive of Denmark.

"The thrill isn't winning," says Predock. "What matters is what lives on in the drawings and models and the spirit of the office. We made a tremendous event happen among ourselves, out here in Albuquerque. It sounds too Mary Poppins, I know, but that's how we feel." *D.D.*





Predock's competition entries for the National Archive of Denmark (top) and the Atlantis Hotel and Casino in Las Vegas (bottom).

PHOTOGRAPHY: COURTESY OF THE MODERN ART MUSEUM OF FORT WORTH (OPPOSITE); ©LINA BERTUCCI (MORRIS/SATO); YOSHIKO SATO (PETROSINO); STEVEN HILLYER (YOKOHAMA); ROBERT RECK (PREDOCK PHOTOS)

American architectural history is filled with similar stories. Eero Saarinen got out from behind his famous father's shadow by winning the Centennial Gateway Arch competition in St. Louis. Albuquerque architect Antoine Predock escaped his reputation as "Mr. Adobe" by winning a series of major competitions in the mid-1980s [see sidebar, page 65]. Maya Lin might be just a struggling artist were it not for winning the Vietnam Veterans Memorial competition.

The payoff—even for losers

Yet in prestigious international competitions, winning isn't everything. Eliel Saarinen got more mileage out of a second-place finish in the Chicago Tribune Tower competition than Raymond Hood did by finishing first. Houston architect Carlos Jimenez, a finalist in the Modern Art Museum of Fort Worth competition, has seen his visibility shoot up dramatically. "It brought my work to a national level almost overnight," he says. "I'm getting calls I never would have got before. The competition was a real turning point for me."

Competitions come in various guises, from idea competitions ("What to do about Times Square?") to interview competitions, portfolio competitions, and design-build competitions, a favorite of city managers. But the fundamental division is still between open competitions—such as the Oklahoma City Memorial and the Vietnam Veterans Memorial—and invited competitions, in which a handful of architects are preselected on the basis of previous work.

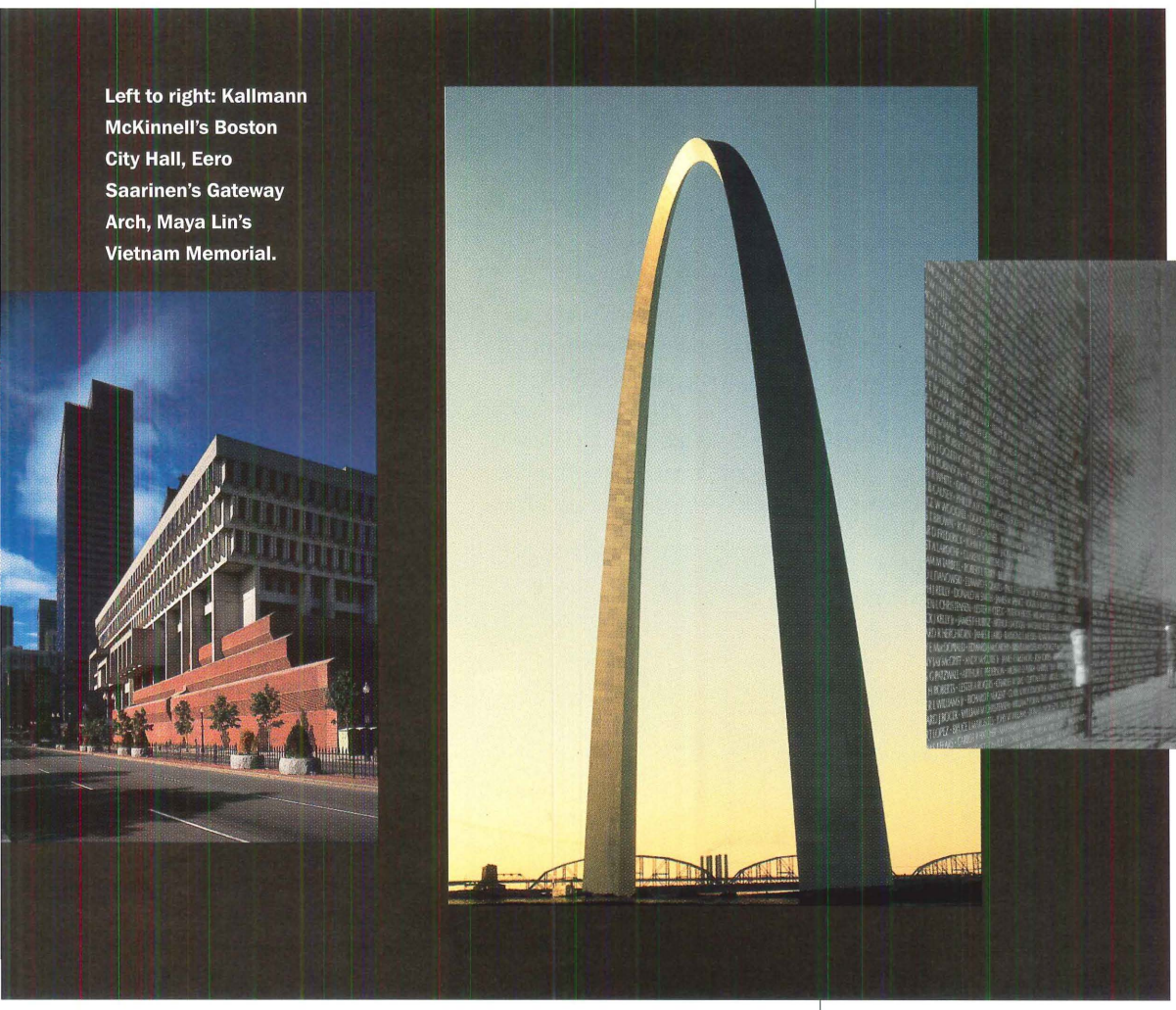
The first usually have low fees and limited requirements: one or two boards, perhaps, and a few paragraphs of text. But they attract hundreds of entries, which reduces the odds of winning. Invited competitions offer better odds and more focus, and usually include a stipend. But the stipend never covers the costs, which may include perspectives, a dozen boards, a model, a report, and a public presentation.

The Modern Art Museum of Fort Worth's competition for its new building, across the street from Louis Kahn's Kimbell Art Museum, offers valuable insights—mostly reassuring—into the process.

In the beginning the director and chief curator put together a master list of approximately 25 plausible candidates, which they presented in detail to a committee of trustees and friends of the museum. The committee cut the list to six, considered a manageable number, and issued invitations for a one-stage competition consisting of six boards, a dozen drawings, and a formal presentation, for which the architects were each paid $25,000. All the architects visited the site. One came eight times.

Telling the public what the project is about

The staff and committee, in turn, visited the major buildings of each of the finalists. There was no professional advisor or outside jury. Before announcing the winner, the museum exhibited the designs for a month to raise public understanding and expectations about the project. A book and a video will follow.



Left to right: Kallmann McKinnell's Boston City Hall, Eero Saarinen's Gateway Arch, Maya Lin's Vietnam Memorial.

"The competition produced an intellectual and promotional drama that told people what the project was about," said chief curator Michael Auping. "It educated the staff and the committee to be better clients, and it pushed the museum center stage in the center of the country for modern art. What artist wouldn't want to show in an Ando building?"

The clarity of the Fort Worth competition contrasts sharply with the muddle of MoMA's, which already has gone through two rounds, 10 architects, and a baffling exhibition. The competition's stated intentions were commendable—to focus on concepts rather than design, and to highlight the work of a new generation of modernists. Instead, the 10

schemes, each packaged to fit into a green shirt box, proved to be timid, repetitious, and so uniformly inscrutable that not even the cognoscenti could decode them. Leading museum architects in New York and elsewhere felt stiffed. In short, what should have been a stimulating public discussion about the future of an enormously important building turned into an esoteric insider affair that has left the public out in the cold. And there's at least one more round to come.

Competing isn't cheap

Yet even an impeccably organized competition represents an enormous gamble for an architect. The estimated minimum cost of participating in a major invited competition is $40,000, of which the stipend may cover a quarter to a third. Most architects exceed the minimum by a factor of four. Richard Gluckman calculates that he spent more than $150,000 on the Fort Worth competition, much of it on sophisticated models. Another competitor went into debt.

Paul Spreiregen's solution to this problem is "to pay architects in a competition what they would be paid if they were commissioned. The first stage is just to get a viable idea, and should be a back-of-the envelope kind of thing. But at the next stage, which is really preliminary design, architects should be paid for what they do." The finalists in the American Memorial Library competition were paid approximately $60,000 each. But most competition sponsors are reluctant to pay even that much. Young, small firms, without access to a large staff, find themselves at a dramatic disadvantage against big firms, which can throw money at a proposal. Yet even big firms that come up empty in two or three major competitions in a few years can be looking at Chapter 11.

Despite the meager compensation and the onerous conditions, few competitions are cancelled for lack of applications. The architects who complain the loudest are often the first to sign up. This could be evidence of either professional masochism or the persistence of a lottery mentality among architects that says sooner or later your number will come up.

For young architects, particularly in major cities such as New York, Boston, and Los Angeles, a competition is still a good way of getting recognition. Maybe you win; maybe you make a creditable showing. Either way, you may find yourself on the A list for future invited competitions. From that may come a job or two, eventually perhaps a career. [See sidebar on Morris and Sato, page 65.]

The rules of engagement

For seasoned practitioners, the rules of engagement are more complex, and the reasons for entering more idiosyncratic. Yet at some point or other, every architect who considers entering a competition probably asks some version of the following questions:

Is it a worthwhile project? Meaning, is it a project that will stretch my skills and expand my mind, or is it just another job? One reason to enter a competition is to experiment with a different type of building or, like Gluckman, to design a familiar one at an entirely new scale. "We didn't win in Fort Worth," he says, "but I'm enormously grateful for the chance to do a whole museum from scratch and place it before the public. That's a tremendous gift for a small firm like ours."

Is it a real project? In other words, is there a chance in hell of its getting built? Many competitions are merely publicity stunts for the sponsor, a way of acquiring a reputation for sophistication and seriousness without expending much effort. Of the numerous competitions that Venturi, Scott Brown and Associates has won, only one, the addition to London's National Gallery, has been built. "Ours is a profession and an art in which one becomes accustomed to disappointment," Robert Venturi has written, "but you always die a little bit when the product of your labor is rejected and your dream remains unbuilt."

Who's competing? Architects are known in part by the company they keep; the better the company, the more glory there is to bask in. In good competitions, an architect makes a mark just by being invited. Sometimes, unfortunately, the list *is* the competition. According to Stanley Collyer, editor of *Competitions* magazine in Louisville, Kentucky, "Many institutions hold invited competitions because they have to sell an idea to trustees or fund raisers. A short list of well-known architects is a way of saying, 'We count.' It's the architects, not the design, that's really important."

FOR SOME ARCHITECTS COMPETITIONS ARE NOT ABOUT WINNING AT ALL. THEY ARE OPPORTUNITIES TO EXPLORE A NEW IDEA OR TO TAKE A CHALLENGING POSITION.

Who's on the jury? Trying to second-guess a jury can be self-defeating, but knowing the predispositions of jurors is only prudent. You may not win, but you still want to be heard. "The important thing is to lose with dignity," says Carlos Jimenez. "The project has its own mission and its own integrity. If you play to the jury, you've already lost. You have to make a move, as in chess, and what comes out is your stewardship."

Can I afford it? The time. The money. The despondency that inevitably goes with losing.

What do I get out of it? Attention, money, a place on the right lists, the requisite 15 minutes of fame: these are the obvious reasons for entering a competition. Predock talks about competitions creating a "spiritual savings account" that can be drawn on later for other purposes. "A competition is like putting a slow charge on a battery," he says. "The collective energy that builds up in making a building lives on and pops up in other things, maybe in materials, a form, or maybe in an attitude. That's very healthy."

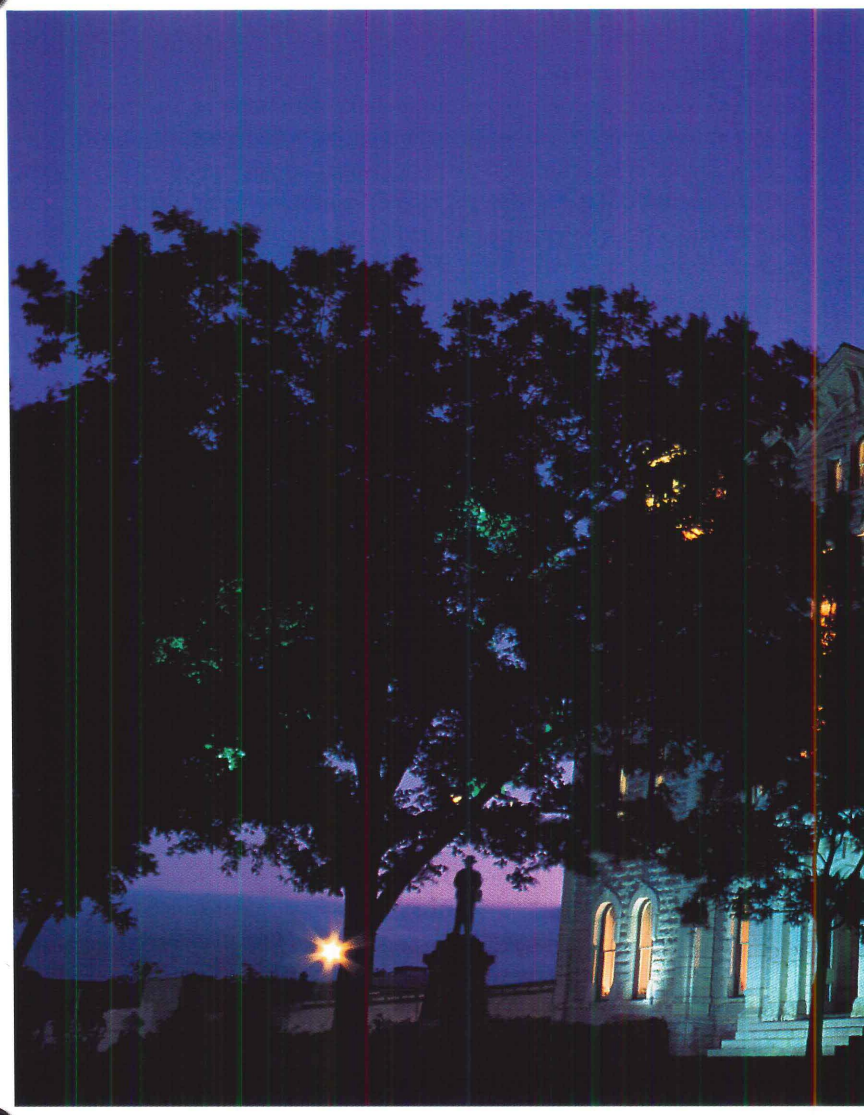
Am I out to win the competition, or solve the problem? Perhaps the toughest question of all, and one that divides architects down the middle. Winning often means producing stunning poetic images that capture the imaginations of the client, even as they avoid the practical problems. Tadao Ando won the Fort Worth competition on the strength of his rhapsodic images and his intuitive understanding of the site, rather than his gallery plan.

Beyond winning and losing

But for some architects competitions are not about winning at all. They are opportunities to explore a new idea or to take a challenging theoretical—or rhetorical—position. "We've never entered a competition with the idea of winning," says Michael McKinnell. "That takes all the fun out of it. You're no longer your own master, which is the great joy of a competition. You have nobody to answer to but yourself. That's exceedingly rare in our profession." ■

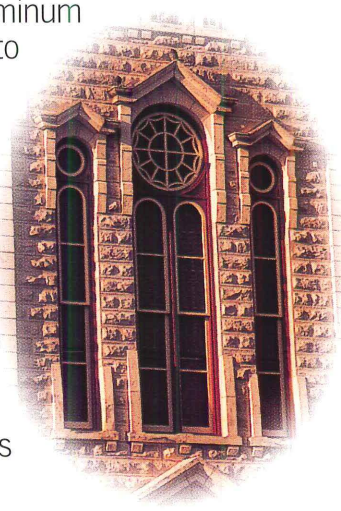
PHOTOGRAPHY: © PETER VANDERWARKER (LEFT); STAN RIES/ESTO (MIDDLE); JEFF GOLDBERG/ESTO (RIGHT)

WHEN IT CAME TO RENOVATING THIS HISTORIC COURTHOUSE, EVEN THE



In 1964, The Parker County Courthouse in Weatherford, Texas was designated a Texas Historic Landmark. And thus began the slow, methodical process of restoring it. First to receive attention was the structure's limestone stonework. Later, the roof was replaced. Then came the windows, which proved to be one of the most challenging aspects of the project.

The Historical Survey Committee mandates that if nothing remains of a historic building's original windows, the new ones must be faithful reproductions, right down to the last detail. Since the courthouse's original wood windows had been replaced by aluminum ones some years back, that meant that all 105 of the new windows had to be virtually identical to those made and installed over a century ago.



Bids were sought, but only two manufacturers felt qualified to respond. One of them, Marvin Windows & Doors, had actually been recommended by a company that was asked to bid but declined.

Though underbid by the other finalist, Marvin's figures were based on building the largest windows with structural muntin bars to withstand the winds that buffeted the building's hilltop site. Intrigued, the architect asked each company to build a sample window. One look at the prototypes and the job was immediately awarded to Marvin.

For the next several weeks, Marvin's architectural department busied itself recreating the past. Working from turn-of-the-century photographs

COMPETITION RULED IN OUR FAVOR.



of the courthouse and measurements of the actual openings, they designed the round tops, double hungs, circles and checkrail units that play such an integral role in the building's design. As for the largest of them, not only were they built to withstand the high wind requirements, Marvin delivered them factory-mulled to further simplify installation.

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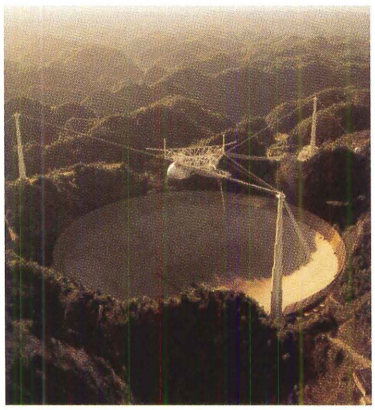
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CIRCLE 34 ON INQUIRY CARD

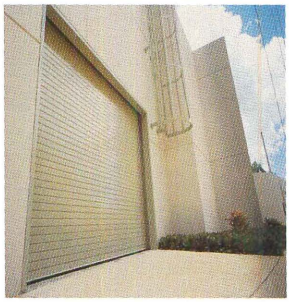
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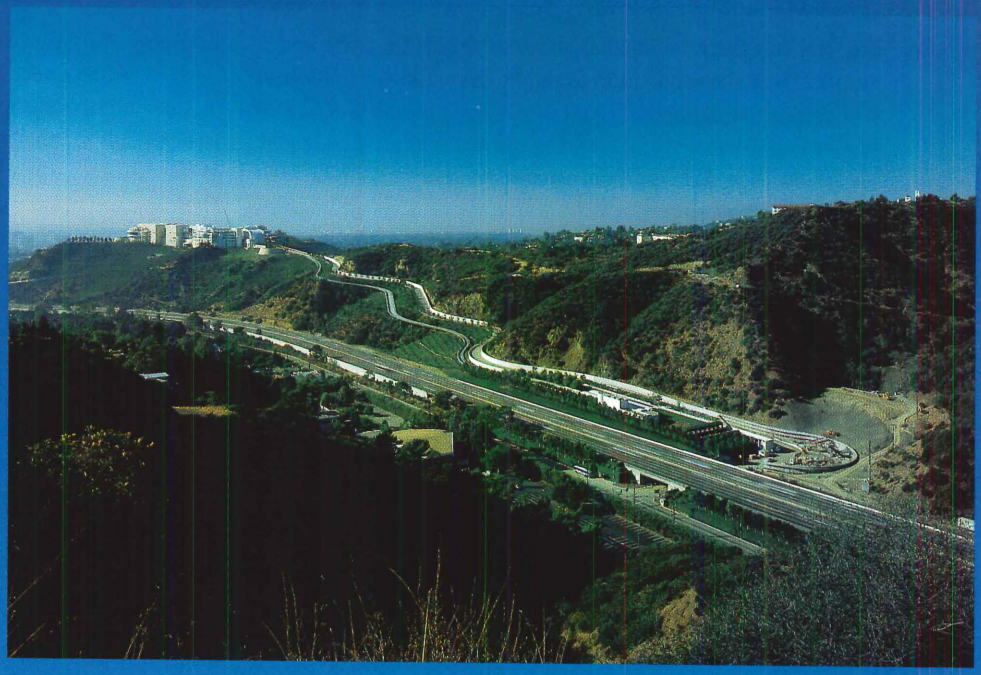
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CIRCLE 35 ON INQUIRY CARD

After almost fifteen years of design and construction, **THE GETTY CENTER** is ready for the public. How has **RICHARD MEIER** succeeded with the project many call the "commission of the century"?





In a view south (above), the Getty Center is perched atop a promontory on the edge of the Santa Monica Mountains.

The east side of the complex (below) stretches from helicopter pad (for fire fighting) to museum gardens (opposite).

These are the facts, or at least some of them: 14 years and 3 months from site acquisition to public dedication; 1 million sq ft of construction (505,000 sq ft of program areas and 440,000 sq ft of food service, storage, and equipment); approximately $1 billion spent (more than $115 million for site preparation, some $600 million for direct construction, over $30 million for fixtures and equipment, and nearly $200 million for permits, engineering, testing, and architectural fees); 295,000 pieces of Italian travertine, each weighing 280 pounds; 40,000 painted aluminum panels; 25 million pounds of rebar; 340 miles of conduit; 165,000 sq ft of exterior glass; 8.1 million cubic ft of concrete; 4.4 million linear ft of steel stud; 151 miles of plumbing and sprinkler piping; 8,000 new trees; a construction crew of 1,200 at its peak. Much has been said, speculated, predicted, and promised about the Getty Center over the years. Now, as it finally nears its public unveiling in December, it's worth reviewing the numbers, not because they tell the whole story, but because, despite their illusion of precision, they don't.

The real story begins with the elusive J. Paul Getty, once known as "the richest man in the world," who changed his will 21 times before dying in self-imposed tax exile in England on June 6, 1976. His final testament, dated March 11, 1976, left the bulk of his personal estate, mostly in the form of Getty Oil Company stock, to the J. Paul Getty Museum and a trust established in his name. By the time his estate was settled six years later, the four million shares of Getty Oil had increased in value from $760 million to $1.2 billion. In the early 1980s, the newly appointed head of the J. Paul Getty Trust, Harold M. Williams, former chairman of the U.S. Securities and Exchange Commission, set about inventing a mission for the organization. Recalls Williams: "The estate was, in effect, a billion dollars with a broad mandate and a lot of flexibility. Particularly for the visual arts, it's a lot of money. It was possible for the Getty to make a difference."

Williams tried to determine *how* to make the difference. After extensive discussions with professionals in the arts and humanities, the Trust identified three general areas—scholarship, conservation, and education—that had "pressing needs not adequately addressed by other public or private sources," Williams says. The Trust formed a group of programs that individually and collectively responded to those needs. After some name changing and development, over a period of years the Trust produced six Getty entities: the Research Institute for the History of Art and the Humanities, the Conservation Institute, the Education Institute for the Arts, the Information Institute, the Leadership Institute for Museum Management, and the Grant Program, each with its own director.

As these institutes and programs began to flourish, a key unanswered question was where they should reside for the long term. The J. Paul Getty Museum in Malibu, modeled on the Villa dei Papiri in Herculaneum, Italy, already had restrictive access and limited potential for large-scale development, not to mention a lush estate ambience that would have been destroyed by the new Getty's program requirements. Moving in or adding on was not an option. The new directors and their staff members were mostly scattered in office buildings around Los Angeles, so Williams started looking for a parcel of land large enough to bring all of the Getty pieces together in one campuslike environment. By the fall of 1983, he had found what he was looking for: 110 acres on a promontory on the southernmost edge of the Santa Monica Mountains, overlooking the Pacific Ocean to the west and downtown Los Angeles to the east, with convenient access to the San Diego Freeway. (An adjoining 600 acres were purchased by the Trust as a natural preserve.)

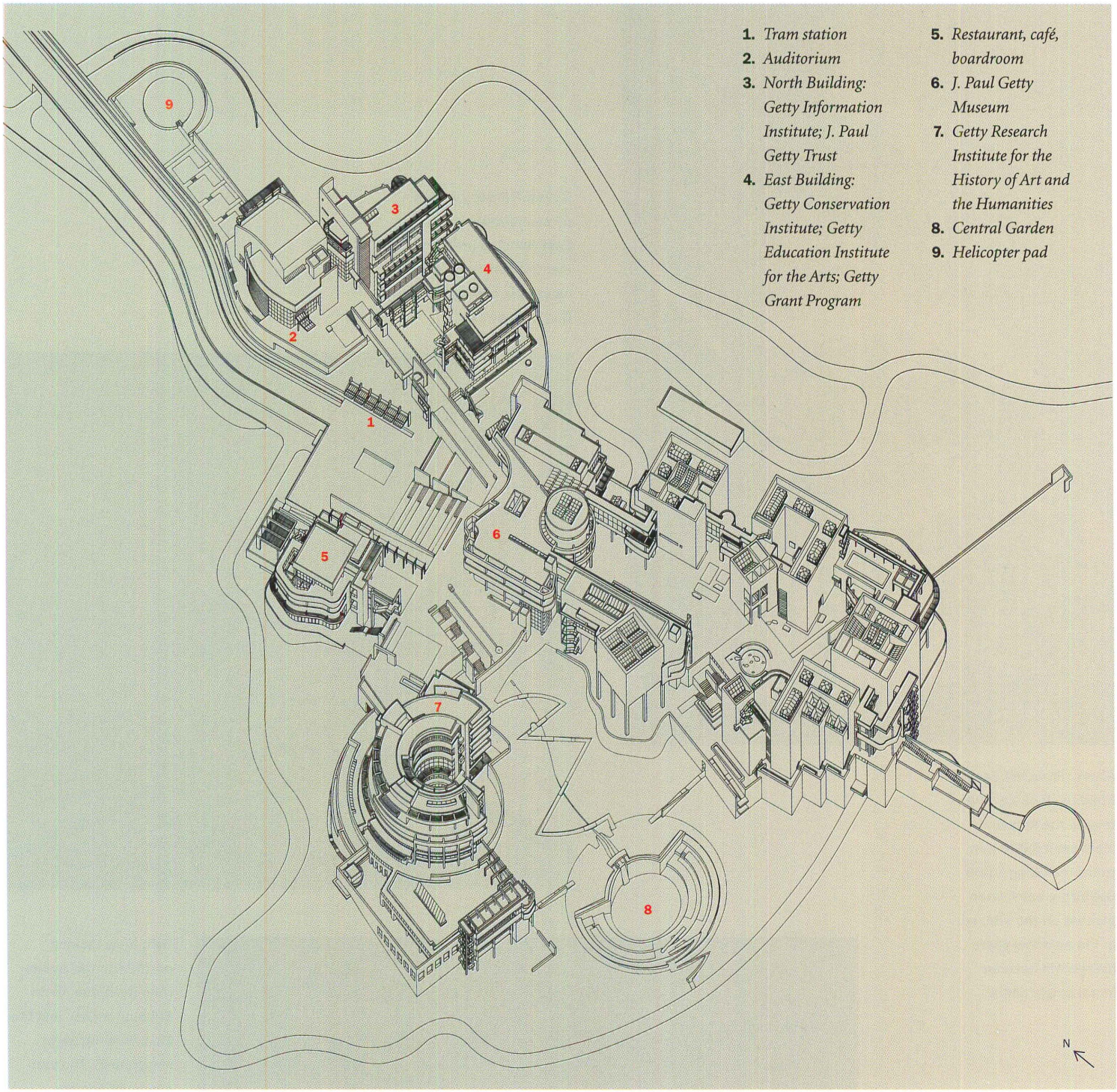
After a year-long architect selection process, Williams and his trustees hired New York City–based Richard Meier & Partners in late 1984 to design what many at the time grandly called "the commission of the century." But a lot had to happen before design could even begin. Planning for programs still in formation proved to be one of the key challenges faced by Stephen D. Rountree, then the building program director. "A lot about the missions of the various programs and their physical requirements was unclear. It took a leap of faith," says Rountree of the 16-month programming phase of the project. Meier struggled with the exact siting of the project: what spot on the 24 buildable acres would be suitable for the Getty Center? His earliest sketches of the project, schematic plans of September 1986, place major buildings along two ridges that intersect at a 22.5 degree angle, a major theme of the final design. During design Williams, Rountree, and Meier faced a host of seemingly irreconcilable forces. The Getty's various programs, in only a few years time, had established separate identities and were diverse in their spatial needs. Meier had to figure out how to accommodate the different programs in one place: how to create both diversity and unity, distinction and inclusion, and not least of all how to reconcile the views of all the directors with those of Williams and the Trust, much less his own.

Seven years after Meier was selected as architect, his final design of the Getty Center was unveiled. More than six years of construction later, the project awaits its public. While this new city on a hill clearly represents the authority of a singular architectural vocabulary with its overlapping grids and dominant and subordinate axes, a strictly calibrated system of proportions, and a controlled palette of materials and colors, the architect's commanding presence—the project's very Meierlike appearance—belies the aches of the communal process it took to get there. In addition to the demands of multiple clients, neighborhood groups played an usually intensive role in the design: rejecting cladding choices as too reflective, prescribing limited access to the site, imposing a height limitation of 65 ft for the museum and 45 ft for the remainder of the project, monitoring the replanting of the hillside. Their "reasonable" needs had to be satisfied before the city would grant the Trust a Conditional Use Permit. What's more, Meier's vision did not always coincide with that of the end users. Museum staff, for example, did not want stark white galleries, but favored colored and textured walls to complement the paintings.

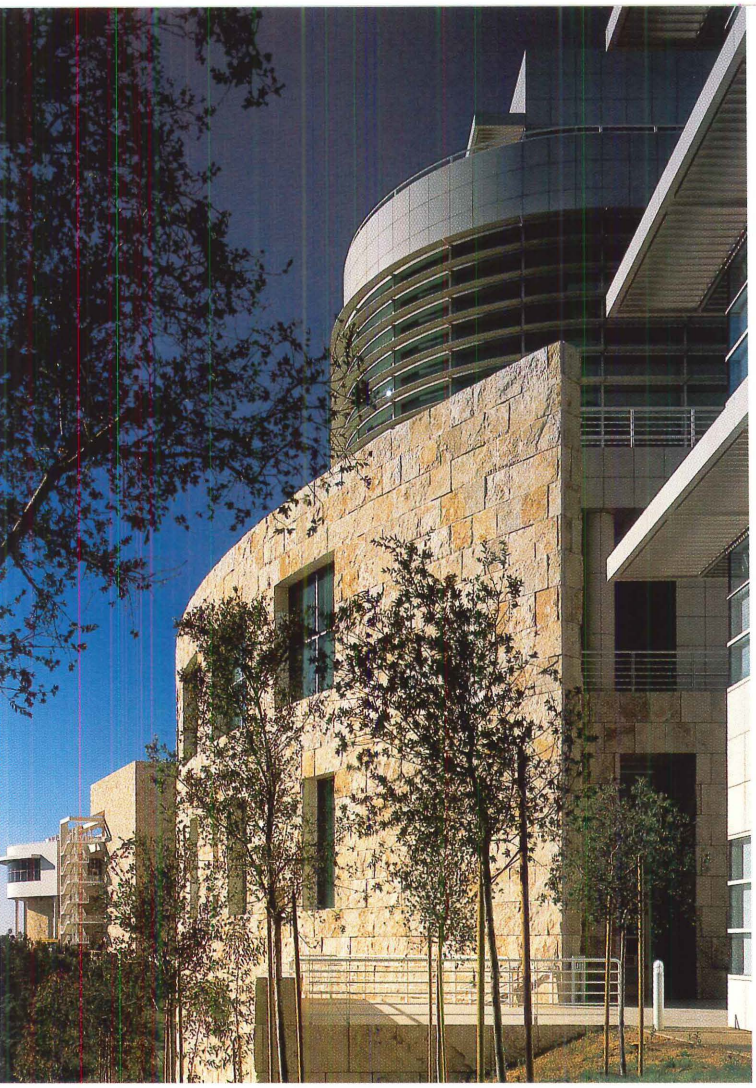
THIS IS A STORY OF AN ARCHITECT, A CLIENT, AND A CONTRACTOR WHO DEMANDED MORE OF EACH OTHER THAN THEY EVER IMAGINED POSSIBLE.

The design conflicts were many and vociferously fought over for years. While some battles did not go Meier's way—"I still think the paintings are six inches too high," the architect said on a recent gallery tour—his legendary persistence remained intact. Jokes Rountree, "Over all these years, he came out here every month, even though at times we wished he'd have stayed in New York." Echoes Williams: "He had a real attention to detail all the way through. There were times in this process when I would have enjoyed a little less attention to detail." But the eye for things small as well as large and the indefatigable persistence came hand in hand. For all the stone, metal, dollars, and time, this story is of an architect, a client, and a contractor who demanded more of each other than they ever imagined possible. Facts and figures aside, making the Getty Center has been a human drama. *Karen D. Stein*

The interviews and chronology on pages 78–81 were compiled by Karen Stein, who also contributed additional reporting throughout.

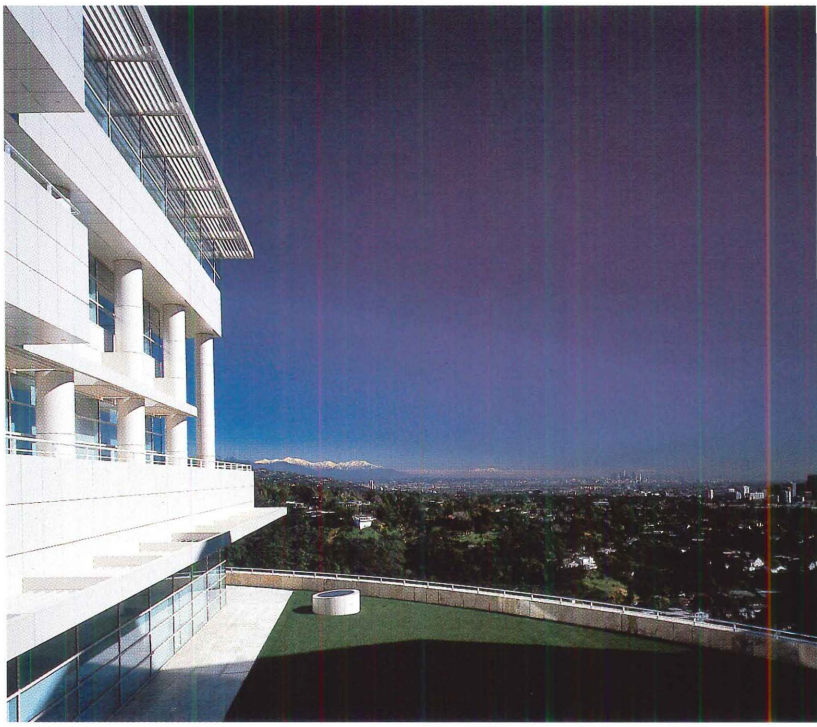


Project: *The Getty Center Los Angeles, California*
Client: *The J. Paul Getty Trust*
Architect: *Richard Meier & Partners—Richard Meier, FAIA, Michael Palladino, AIA, Donald E. Barker, AIA, James Crawford, partners-in-charge; John H. Baker, John Eisler, AIA, Tom Graul, Michael Gruber, Dennis Hickok, Richard Kent Irving, Christine Kilian, James Matson, AIA, James Mawson, AIA, Milena Murdoch, A. Vic Schnider, Timothy Shea, Richard Stoner, Aram Tatikian, Lazlo Vito, J. F. Warren, AIA, project architects*
Landscape Architects: *Olin Partnership/Fong & Associates; Emmet L. Wemple & Associates; The Office of Dan Kiley*
Engineers: *Robert Englekirk Consulting Structural (structural); Altieri Sebor Wieber, Hayakawa Associates (mechanical/electrical); B&E Engineers, RBA Partners, Inc. (civil)*
Consultants: *Paul S. Veneklasen & Associates (acoustical); Paoletti Associates, Inc. (audio/visual); Kaufman/Dahl, Inc. (color); Hanscomb Associates (cost estimating); The Office of Thierry Despont, Ltd. (decorative arts galleries/gallery design consultant); Hesselberg, Keesee & Associates (elevators); CDC, Inc. (exterior enclosure); Rolf Jensen & Associates, Inc. (fire protection); Cini-Little International (food service); Woodward-Clyde Consultants, Pacific Soils Engineering, Inc. (geotechnical); Earl Walls Associates (laboratory); Fisher Marantz Renfro Stone, Inc. (lighting); Karsten/Hutman Margolf (project management); Poulsen Construction Management, Inc. (scheduling); American Nova Co. (specifications); CMS Collaborative (water features)*
Key Subcontractors: *Harmon, Ltd. (exterior enclosure); Air Conditioning Company, Inc. (HVAC)*
General Contractor: *Dinwiddie Construction Company*



Above: From the East Building, looking south toward the museum. More than 8,000 new trees, including 3,000 California oaks, were planted on the site, so in the next few years foliage will become increasingly dense.

Below: A grassy wedge of lawn between the East Building (left) and the museum seems to cantilever over the San Diego Freeway.



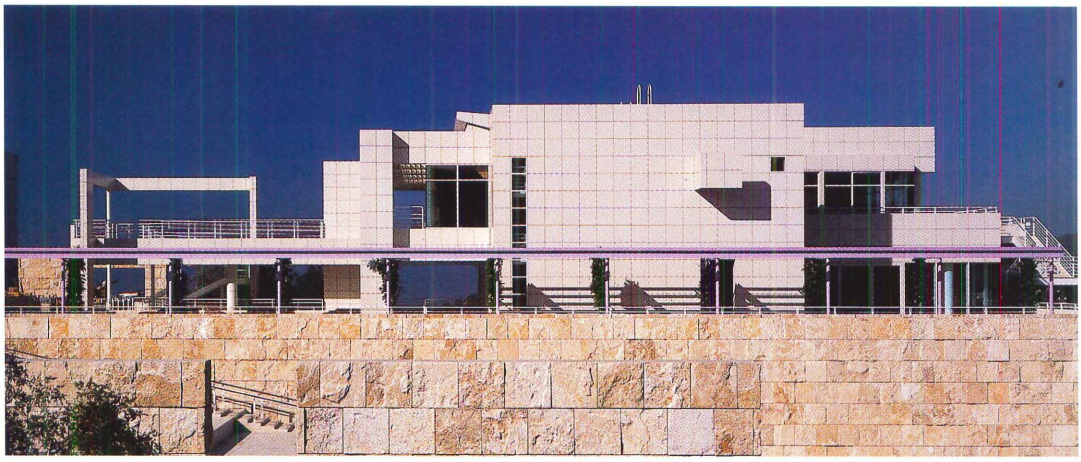


Left: View looking north, with the auditorium (left), the North Building (right), and the East Building (right foreground). The various buildings are connected by walkways and exterior stairs.



Left: On a clear day, views from the Getty Center reach as far as the snow-capped mountains to the east. Brise-soleils provide much-needed sun-shading to the East Building.

Below: A lavender-colored painted trellis along the east side of the restaurant/café/boardroom building will soon be covered with wisteria. Second-floor walkways overlook the Pacific Ocean.





Left: At night, the Getty Center lights up. The tram drops off visitors beneath a series of canopies in the central plaza, which is adjacent to the grand staircase to the museum.

OF THE THOUSANDS WHO HELPED MAKE THE GETTY CENTER, COMMENTS FROM KEY PLAYERS



Harold M. Williams
President and Chief Executive Officer, J. Paul Getty Trust

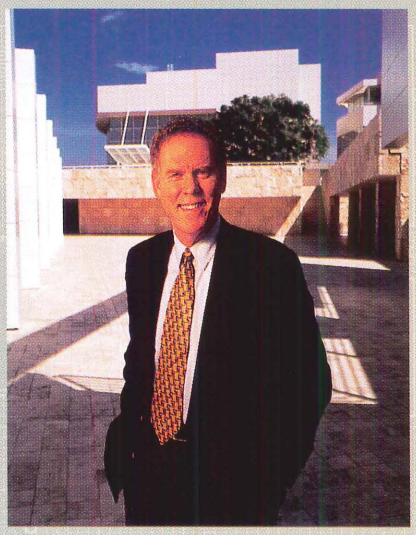
J. Paul Getty was wise enough not to try to rule from the grave. His will talks about a museum, a library, and the diffusion of artistic and general knowledge. It also stipulates that the museum "shall bear my name," not an unreasonable request, and that the trustees shall serve without compensation. That's it: a museum and an operating foundation. Within those parameters, yes, there could have been a lot of different things. As a private foundation we could take risks and make long-term commitments. The question [in formulating the Trust] was: where's the leverage? where are the interstices?

We learned from the field: traveling in Europe and America, interviewing scholars, conservators, anyone in the visual arts. We kept asking questions to find commonalities in the issues expressed. Then we came back to the trustees and said, "Here are the areas where the Getty stands a good chance of making a substantial difference." Since then, a number of programs have developed. From an endowment of some $1 billion we now have an endowment of over $4 billion, and as you can see, we spent a few dollars along the way.

Many things led us to the selection of Richard Meier. This is a man who has a passion for museums and books. He was the most articulate of the many architects we interviewed in conceptually and materially understanding the site, appreciating the quality of light. And he made a larger commitment of self to this project than any of the other architects were prepared to do.

Stephen D. Rountree
Vice President, J. Paul Getty Trust

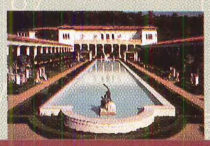
I worried about representing the project to the community. The main topics were size, traffic, noise, and visual and acoustic privacy. The Brentwood homeowners [who live down the hill] had two architects review all the drawings. The Bel Air homeowners [who live across the freeway] had a broader view. They were concerned about street parking, the new freeway exit, signage. I think the process was healthy. The group heads were able to translate to the neighbors what was happening. They got us to redesign the location of food-service exhaust vents, night lighting, and so on. When J. Paul Getty built the Malibu villa, he was indifferent to the neighbors. It was perceived as a secret deal. Harold [Williams] said from the start, "We're going to be here for 100 years. We need to be part of the community."



CHRONOLOGY

1953 The J. Paul Getty Museum is established as a California charitable trust.

1974 The Getty Villa opens in Malibu.



1976 J. Paul Getty dies, leaving the bulk of his personal estate in trust to the J. Paul Getty Museum.

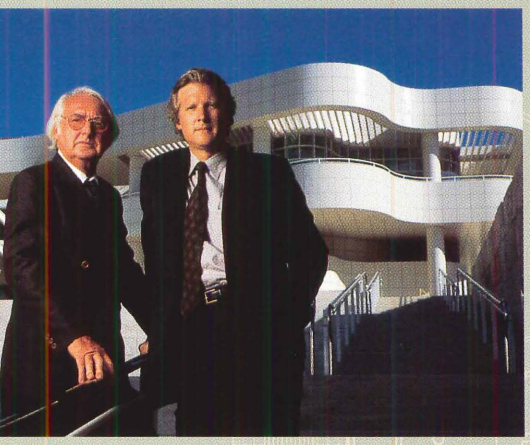
1981 The Trust hires Harold M. Williams as its first president and chief executive officer.

1982 The J. Paul Getty estate is settled; the Trust receives $1.2 billion.

SEPTEMBER The purchase of a 110-acre site in Brentwood is announced. Another 600 acres are purchased as a natural preserve.

OCTOBER Thirty-three architectural firms are invited to submit qualifications to design the Getty Center.

1983 **NOVEMBER** Seven firms are selected as semifinalists: Henry Cobb of I. M. Pei & Partners; Fumihiko Maki & Associates; Richard Meier & Partners; Mitchell/Giurgola; James Stirling, Michael Wilford and Associates; Venturi, Rauch and Scott Brown.



Richard Meier *(left) and* **Michael Palladino** *Principals, Richard Meier & Partners*

RM: The Getty Center is a completely program-driven design. Each entity has its own architectural identity closely reflecting its program. The underlying concern is an idea of permanence. The Getty stands for a different vision of Los Angeles—one of stability and continuity. It's not a place to ask "Who am I?" but rather "Who are we?" It's an ideal version of social space.

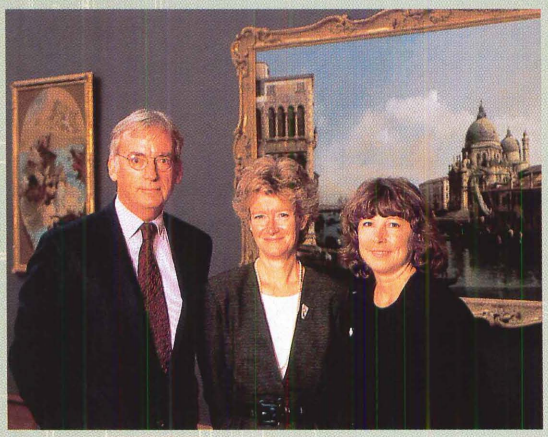
MP: Many people say that the Conditional Use Permit and its 107 exceptions tied our hands in terms of design. But where would we have been without it? Where would one have drawn the first line? In the early discussions about the project, we began to develop the duality of the site. The museum, being the most public of the buildings, is positioned as the most visible to the city. Other buildings are more contemplative in function and face the mountains or ocean.

John Walsh *(below left) Director, J. Paul Getty Museum*
Deborah Gribbon *(middle) Associate Director*
Barbara Whitney *(right) Associate Director*

JW: A well-developed idea for the museum existed before Meier was hired. The main principle is embarrassingly simple: galleries that make works of art look wonderful. The idea was about the quality of light and the proportions of the spaces. Also, people learn a lot more in a place they enjoy, so the spaces can't all be the same kind and the informational and educational aspect of the program can be built in and not added on. After observing the Malibu museum, it was clear that it's not just about intense gallery experiences, it's also about relaxing outdoors. We thought we'd build a quirky museum. This is a loose-limbed building with all kinds of seemingly private corners and captured spaces.

DG: The driving force in the design of the museum was striking a balance between giving visitors options about the route they might take through the galleries, encouraging an exploration, and creating an easily understood floor plan. John [Walsh] has always had a strong voice about the essential elements of a museum. There was also an understanding on his part that a museum is a very complex building in that it has galleries and other public spaces that have to be very specifically purpose-filled. But then it has very narrow tolerances in terms of HVAC, etc. Having established the basic outlines, John was willing to let the users speak for themselves with equally strong voices about their needs.

BW: Observers of the gallery-design process such as the lighting consultants say it was the most truly collaborative effort across a wide range of people they had ever seen. The director and chief curator were actually having a real dialogue with the people who work with the objects, and these opinions were communicated to Richard Meier and Thierry Despont.



1984

1983–84 The Getty Trust creates five institutes in addition to the museum—the Getty Research Institute, the Getty Conservation Institute, the Getty Information Institute, the Getty Education Institute, and the Getty Leadership Institute—and the Getty Grant Program.

APRIL Three finalists for design of the center are selected: Fumihiko Maki & Associates; Richard Meier & Partners; James Stirling, Michael Wilford and Associates.

OCTOBER Richard Meier & Partners is chosen as architect of the Getty Center.

NOVEMBER First meeting of the Getty planning committee, which includes Harold Williams, Stephen D. Rountree (newly named building program director), and others.

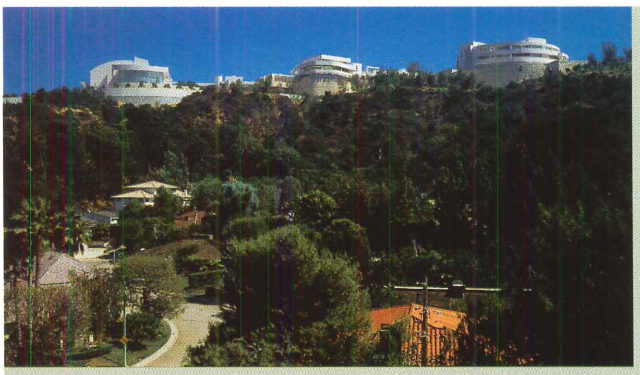
1985

Getty staff, including Museum Director John Walsh, and architects travel to some 50 sites in Europe and North America to study museums, research institutes, and gardens. Rountree works with internal groups to draft the program.

1986

MARCH The architectural program for the Getty Center is completed.

SEPTEMBER Richard Meier & Partners opens a Los Angeles office, headed by Michael Palladino.



Elaine Gerdeau
Manager, Bel Air Association
We were most influential on the subject of traffic, but the color of the building was also particularly important to us. We understood Meier's museum in Frankfurt has a high-tech look with white panels. I haven't seen it, but I heard that it's shiny and really stands out and that he had something similar in mind for here. We were opposed to that because we wanted something that fit in the Santa Monica Mountains. Now I think it's terrific, though some of the neighbors are horrified.

Robert Barnett
Director, Brentwood Homeowners Association
The city of Los Angeles said it would grant the Conditional Use Permit only upon the approval of the homeowners associations. The issue we labored on most intently was color. We were concerned about reflection off of a white building. Meier would bring in a metal panel and say, "It's beige," and we'd say, "It's white." After a lot of negotiation, we finally agreed. We are pleasantly surprised at the way it's turned out and that the Getty considered our needs and concerns.

Greg Cosko *(below right)*
President and CEO, Dinwiddie Construction Company
Ron Bayek
General Superintendent
GC: Dinwiddie has a relationship with the Getty that goes back to 1959, when we did an office building for Getty Oil. Later we built the Malibu museum. What we had to offer the Trust was a substantial amount of preconstruction and logistical planning. From the beginning, our supervision and management teams were able to assess and provide information to Meier's team and the Trust regarding feasibility and cost and the practicality and impact of various systems. There were a lot of unanticipated geological conditions in the soil that we were constantly having to react to.

A challenge particular to this project is that it's a balanced site: no export or import of soil was allowed under the permit. That was done partly for the neighbors' benefit, so that there were no semi-trucks coming and going with earth. It created challenges in terms of how the work was sequenced.

RB: Not everybody gets along with Richard [Meier], but I get along very well with him. At the beginning of the project my boss said to me, "I don't care what it takes, I want you to get inside Richard's head." Once you get in there and find out what he's really looking for, it makes part of the challenge go away. Working with Richard is like designing jewelry. He wants you to deliver perfection. Until you can deliver perfection, he is not happy with you. Costs went up as a result of that. For every handrail, every piece of metal, he wanted crisp corners. It was difficult to indoctrinate the subcontractors who were used to development work downtown. Without total team effort on this job, we couldn't have pulled it off.



CHRONOLOGY

1987

FEBRUARY Dinwiddie Construction, which built the original Getty Museum in Malibu, is named general contractor to oversee the 1,200-person daily work force.

AUGUST The master plan of the Getty Center is approved by the Los Angeles Planning Commission. A Conditional Use Permit is granted with 107 exceptions on issues ranging from the scale of the buildings, to the cladding color, to site access, all concerns raised in meetings with community groups.

1989

JUNE Thierry Despont is hired to develop the interiors of the decorative arts galleries.

NOVEMBER Construction begins at the parking facility.

1990

MAY The Trust approves the choice of Italian travertine and off-white metal panels for the exterior.

1991

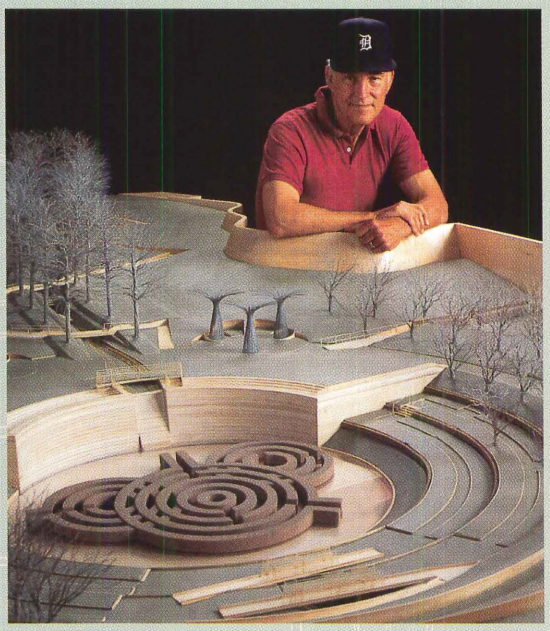
MARCH The L.A. Planning Commission grants final design approval.

OCTOBER The Trust unveils final design to the public.



Thierry Despont
Gallery Design Consultant, J. Paul Getty Museum
First the museum contacted me to design the decorative arts galleries. The curators thought they could not display the collection in a stark, modern white environment and that the galleries should be sympathetic with the collection. I was involved early on. Construction had not started. Richard [Meier] had defined the envelope, but I could order the series of rooms and work with Richard on transitions between spaces to give a sense of coherence to the period rooms. It worked well.

The painting galleries were a different story. Richard designed the spaces. John [Walsh] wanted someone to help design the interior finishes: textures, colors, fabrics, flooring. One of the good things about [this part of the commission] was that by then I had a good working relationship with Richard. He would have preferred to do it completely, I think. But I feel I introduced textures, colors that are best for the paintings yet respect Richard's work.



Robert Irwin
Artist, Central Garden
The garden is almost a living room. It happens in this very powerful architectonic setting, and it takes all its cues from the architecture, which is the main event. How do you get from Meier's geometry to my texture? Everything in the garden starts with a geometry, but in most cases it's so compounded that at first you experience it as pattern or texture.

I've been gathering plants for years. I've handpicked every single plant here myself—over 1,000 varieties and species, not to mention the numbers. We've been budding trees for about two years. In about four years we'll start shaping them, but it will be seven years before they're done. At first I'll have a sun garden and later a shade garden.

The focus of modern art for me is the phenomenal, the idea that things are not concrete: our world is transient. A garden is a great place to exercise that argument.

1992

JUNE The Trust commissions artist Robert Irwin to design the Central Garden.

1993

OCTOBER Hanna/Olin, now the Olin Partnership, is brought in as the landscape architect.

1994

JANUARY 17 The Northridge earthquake causes hairline cracks to welded joints in the steel, necessitating a reexamination of welding procedures.

1995

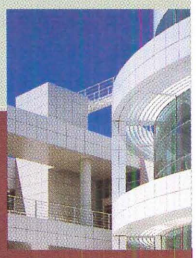
MAY Despont is commissioned by the museum to work with Meier on the gallery finishes.

1996

JANUARY The museum approves the gallery skylight and lighting systems.

1997

SEPTEMBER The Getty staff begins moving in to the North and East Buildings. The first board meeting is held at the Getty Center.



DECEMBER The public dedication is held.



RECOGNIZING CITY, MOUNTAIN, AND OCEAN: SITING THE GETTY

Richard Meier established a site strategy by orienting buildings on two overlapping grids (diagrams, opposite). One aligns with the predominant north-south orientation of the site's mountain ridgelines and adjacent I-405 (San Diego Freeway), offering drivers a vista of the entire eastern elevation. The other, tilted 22.5 degrees to the northwest/southeast, aligns with the predominant grid of nearby Santa Monica.

Meier arranged groupings of buildings at the three high points of the mountain, tying them via axes to the museum rotunda, which hinges the two grids. The topography in part shaped the buildings: they are widest where the land is flattest.

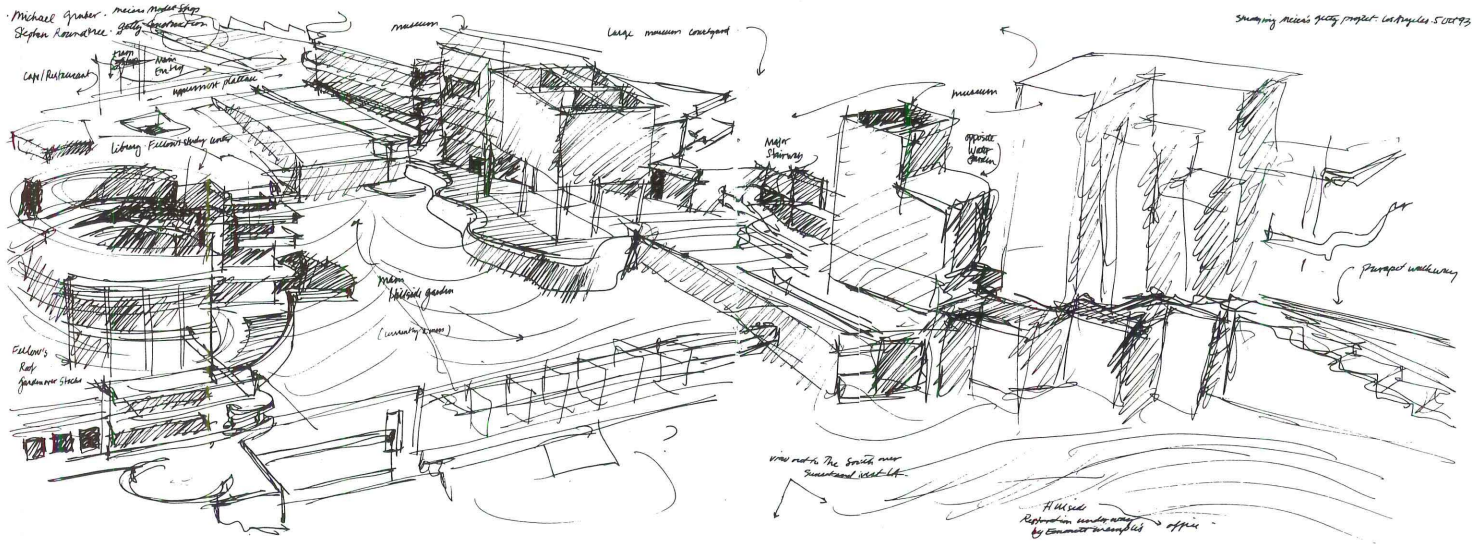
A series of plazas at elevation 856 unites the Getty's disparate structures. This datum is expressed architecturally as the height of the stone-faced base that surrounds the entire complex. (With a few exceptions "for compositional reasons," according to Meier's partner Michael Palladino, only the galleries are clad in stone above this datum.) The most spatially complex program elements are contained in the glass-and-metal structures that rise from the stone base. These are by intention visually lighter, and sculpturally complex.

Having decided that visitors should leave their cars at a seven-level, 1,200-car parking structure, the Getty had to figure out how to transport as many as 1,200 people an hour to the hilltop. "We looked at buses, funiculars, various types of people movers," explains the Getty Center's Stephen D. Rountree. The center chose a cable-drawn, air-cushioned tram, which visitors board after passing a security checkpoint. The tram is quiet (its machinery is at the center, not in the cars), and it is fail-safe: with the power off, it loses its air cushion and settles onto brakelike pads. The single carriageway, which hugs the hill as it ascends, is much less obtrusive than an entrance drive would be, and its long cast-concrete spans minimized earth disturbance. (There is a service drive, which the tram's route parallels.)

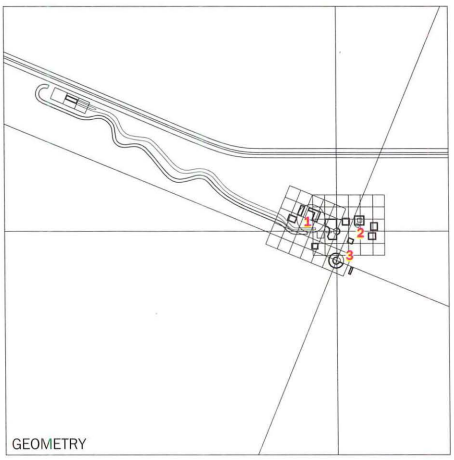
On its way to the Getty Center, the tram passes through a landscape with tens of thousands of native oaks and other plants, specified by landscape architects Emmet L. Wemple and Associates to a grid plan conceptualized by Dan Kiley. These trees are more resistant to wildfire and offer better erosion control during the area's periodic bouts of fire and flood than the native flora that would otherwise gradually grow in. As additional wildfire protection, the Getty features external sprinklers and a million-gallon fire-fighting water reservoir.
James S. Russell

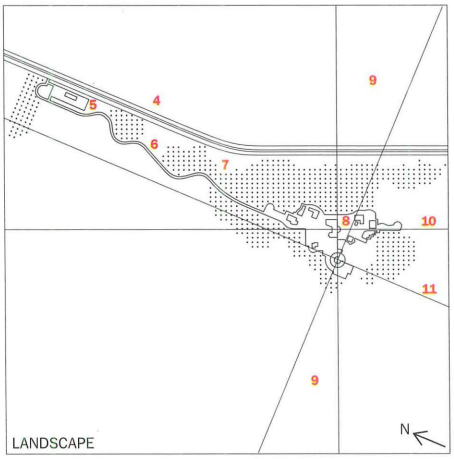






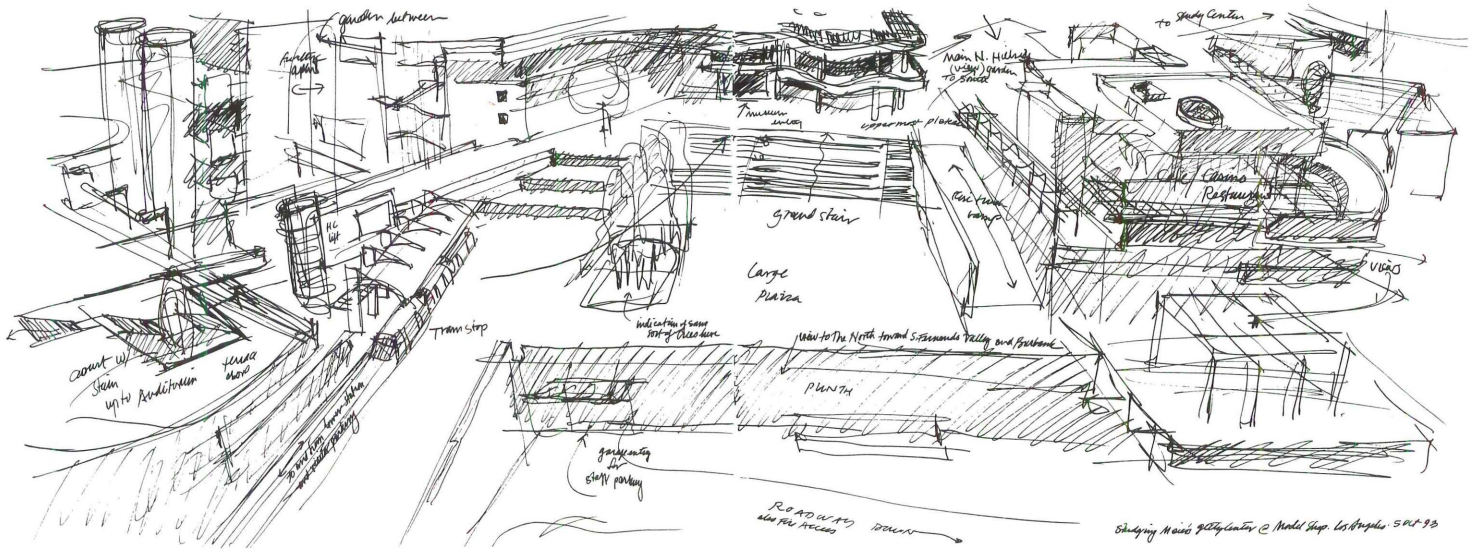


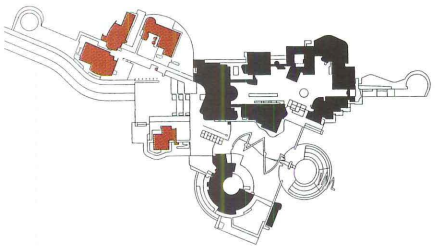




1. *North Quadrant*
2. *Museum*
3. *Humanities Institute*
4. *San Diego Freeway*
5. *Parking structure*
6. *Tram*
7. *Replanted trees*
8. *Rotunda*
9. *Vista along Santa Monica Mountains*
10. *Vista to Santa Monica*
11. *Vista to Pacific Ocean*

The Getty Center beckons from the driverless tram's canopied platform (opposite top; arrival plaza opposite bottom). Trees planted in a grid make the transition from the naturalistic site plantings to the Mediterranean-inspired landscape of the center (early sketches by designer Laurie Olin, below).





THE NORTH QUADRANT SERVES AS A GATEWAY TO THE GETTY CENTER CAMPUS

Surrounding the central plaza of the Getty Center, the four buildings of the north quadrant are the first ones visitors see when they arrive on the tram. While each building has at least some public component, the auditorium and the restaurant/café are the ones that visitors will have the most reason to frequent. The North and East Buildings, on the other hand, house mostly offices and support space for programs including the Getty Conservation Institute, the Education Institute, the Grant Program, the Getty Trust, and the Information Institute.

Because the North and East Buildings have similar programs, the architects and client once considered combining them into one structure. But a two-building scheme broke down the scale of this part of the campus and provided each institute or program housed inside with a more distinct identity, says Richard Meier partner Michael Palladino. It also allowed the architects to take advantage of the natural topography, separating the two buildings with a ravine that the Olin Partnership landscaped with palms and lush planting.

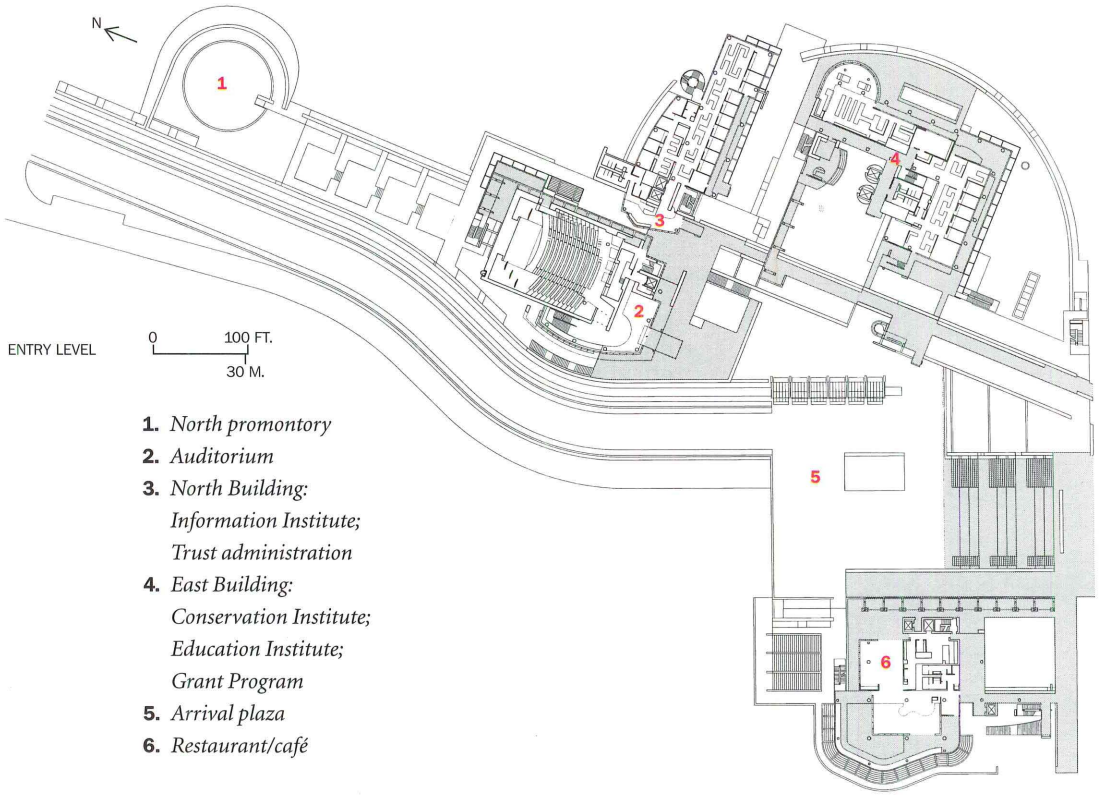
The L-shaped East Building (this page top and opposite page bottom) is anchored by the Getty Conservation Institute, whose mission is to preserve cultural monuments, historic sites, and works of art around the world. With three floors of offices and two floors of laboratories, the Conservation Institute occupies the largest portion of the 80,000-sq-ft building. The other two tenants are the Getty Education Institute for the Arts, which promotes arts education in K–12 schools, and the Getty Grant Program, which funds projects in the fields of art history, museum practice, and conservation. The most public component of the building is a two-story cylindrical space used as a library and information center.

Because the building is nestled into a ridge overlooking the San Diego Freeway, floors that are below grade on the west have windows on the east. Terraces on three sides, balconies, and outdoor stairs and corridors make this building the most "Californian," or open to the environment, of the entire Getty complex.

Essentially an office building with long bands of horizontal glazing, the East Building, says Miguel Angel Corzo, director of the Conservation Institute, "is the only building that doesn't reflect its function [on the outside]. What happens inside is that we think."



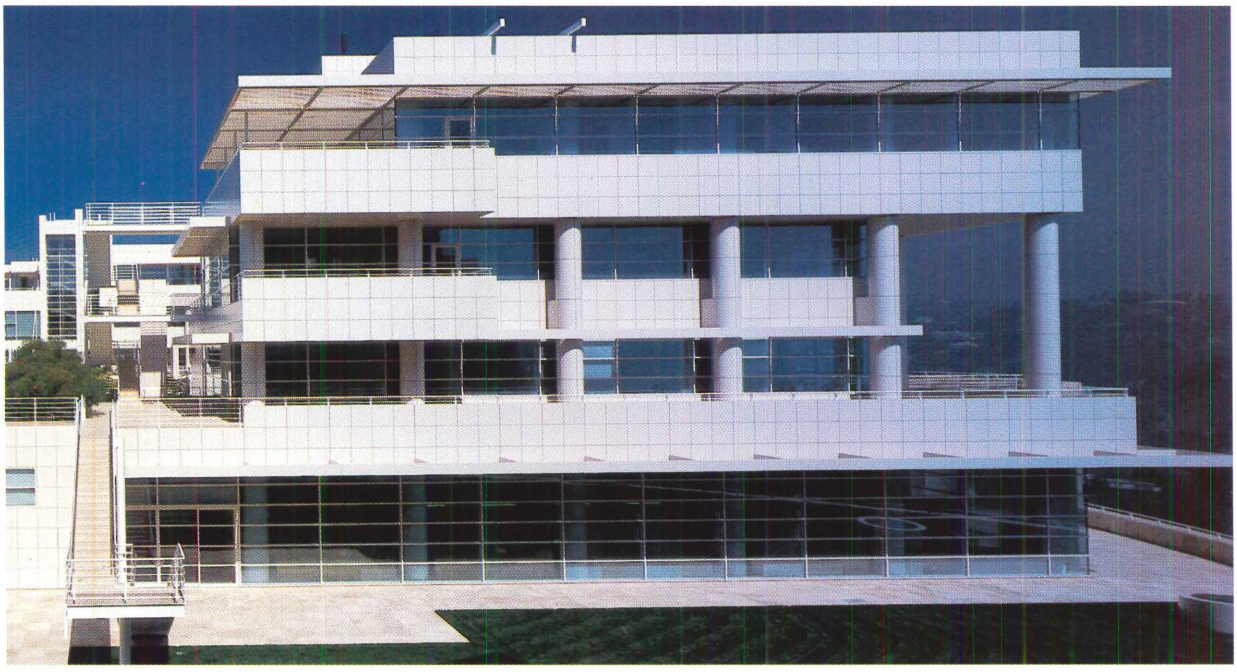




1. *North promontory*
2. *Auditorium*
3. *North Building: Information Institute; Trust administration*
4. *East Building: Conservation Institute; Education Institute; Grant Program*
5. *Arrival plaza*
6. *Restaurant/café*

PHOTOGRAPHY: SCOTT FRANCES/ESTO/©GETTY TRUST

One of the key characteristics of the Getty campus is the diversity of outdoor spaces—from the palm-studded "ravine" between the North Building (left in photo above) and the East Building (right in photo) to the grassy lawn in front of the East Building (right). Stone-clad plinths support the metal-and-glass structures of the East Building (opposite top) and the restaurant/café (opposite bottom).



And inside, the portion of the building used by the Conservation Institute reflects what Corzo thinks. Although the building was originally designed with traditional closed offices, Corzo changed the program to open offices when he became director midway through the project. "What you see inside is a philosophy based on teamwork. I was against [private] offices," he says. Colored walls are another unusual aspect of the building's interiors. Meier worked with designer Donald Kaufman to develop colors ranging from a grayish blue to peach and brown, which were used to emphasize procession through certain spaces and as transitions between areas with plenty of sunlight and ones that are darker.

The 64,000-sq-ft North Building is home to the Getty Information Institute and administrative offices of the Getty Trust. The Information Institute, which occupies two of the building's six floors, makes resources on the arts and humanities more accessible through digital technology. "We explore how networking technology can overcome the limitations of physical space," explains Eleanor Frank, the institute's director. The physical space occupied by the institute is traditional in layout, with managers in offices on the perimeter, staff in open areas adjacent to the managers' offices, and computer programmers in private offices in the center of each floor. Extra cabling for heavy computer use was one of the special needs of the staff.

With its arching roof and location at the north end of the hilltop campus, the 450-seat auditorium is a landmark that helps orient visitors when they arrive on the tram. The largest indoor assembly space at the Getty Center, the 31,000-sq-ft

A variety of sun-shading devices, including metal fins, brise-soleils, and overhangs, are used on the south elevation of the North Building (bottom). The lobby of the building is a clear-glazed, two-story space (below).

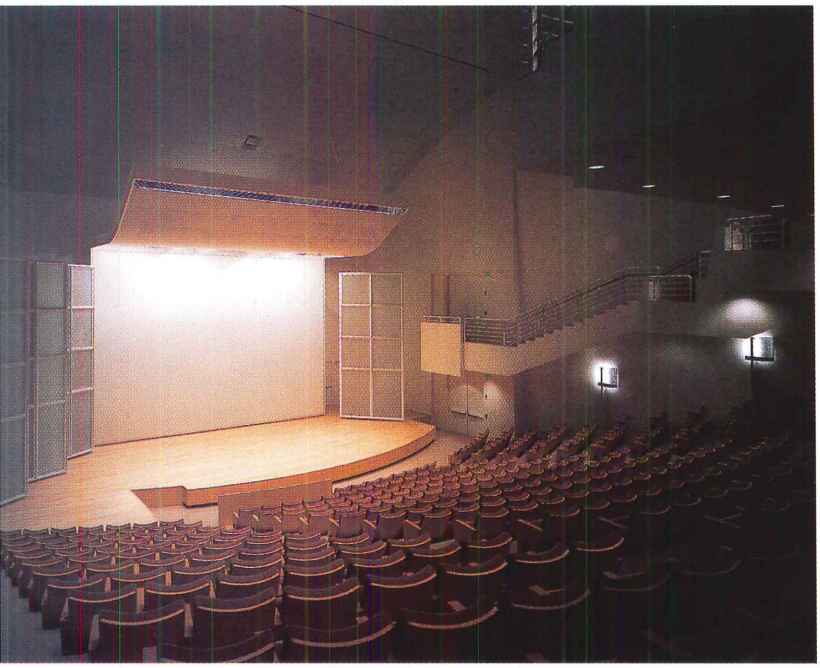




All of the buildings at the Getty Center have their main entrances on a common "plaza" level, which often is a middle floor. Visitors enter the East Building from a bridge (left in photo above), crossing a courtyard cut into the hillside. Two floors of offices are above the entry level, two floors of laboratories below. In the East Building, the Conservation Institute worked with Meier's interiors team, headed by senior interior designer Christine Kilian, to create open offices (right) with conference rooms on the perimeter. Curved perforated-metal panels above workstations reflect light.



Arriving at the hilltop campus by tram, visitors see the auditorium (bottom) and a helipad for firefighters (lower left in photo bottom). Solid on its north elevation, the auditorium is more transparent on its south side (bottom right). Inside, the facility seats 450 (below).



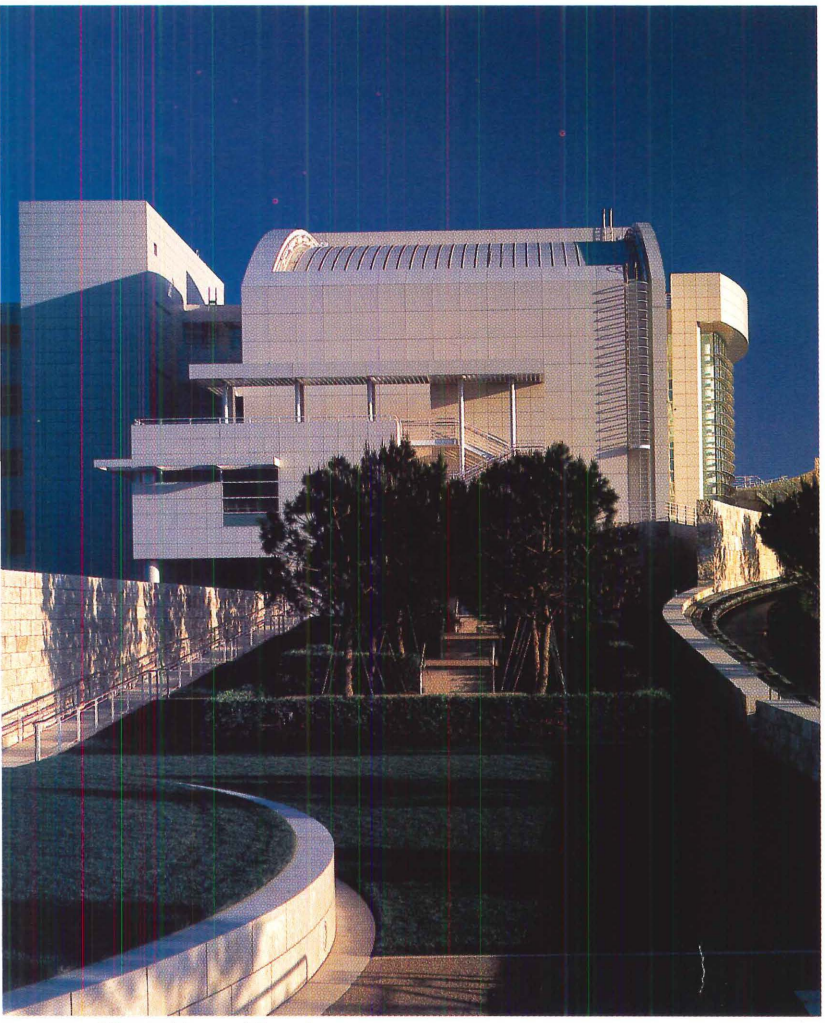
auditorium serves the entire campus and can be used for a variety of events, including symposia and small-scale musical performances. Simultaneous-translation equipment allows the auditorium to accommodate people from different cultures.

Diagonally across the arrival plaza, the 29,000-sq-ft restaurant/café building is another amenity shared by everyone at the Getty. Approximately equidistant from the North and East Buildings, the museum, and the Research Institute, the 650-seat food-services facility offers three levels of dining: a cafeteria on the plaza level, a restaurant above, and a boardroom with private dining on the top floor.

The restaurant/café building caters to Getty staff as well as visitors. Taking advantage of the mostly benign Southern California climate and great views to the south and west, the facility offers extensive outdoor dining areas. On the plaza level, the cafeteria-style operation has 270 seats indoors and dining for 150 on a wraparound terrace. Pivoting glass doors can open the indoor area to the outside. One floor above, the restaurant has seating for 150 people indoors and 120 outdoors. Even the boardroom and private dining area on the top floor have their own outdoor space.

Brise-soleils and pergolas provide shade, and the architects are experimenting with outdoor screens to protect diners from the winds that often kick up. Indoors, gray translucent fabric shades offer another layer of sun protection when necessary.

On the plaza level, a metal pergola painted lavender (a color not usually found in Meier's palette) highlights the white wisteria flowers that will grow on it. A small café at the museum with outdoor seating is connected to the restaurant/café building's main kitchen by an enclosed service corridor on the plaza level. *Clifford Pearson*



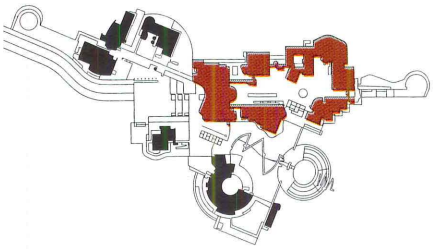


Opposite page: The restaurant/café (top) offers three levels of service: a café on the first floor (bottom left), a restaurant on the second, and private dining, including a boardroom, on the third (bottom right). The floors in the café are old-growth hemlock, and the ceilings are 15 ft high.









THE NEW J. PAUL GETTY MUSEUM SHOWS THE BEST OF ART AND OF LOS ANGELES

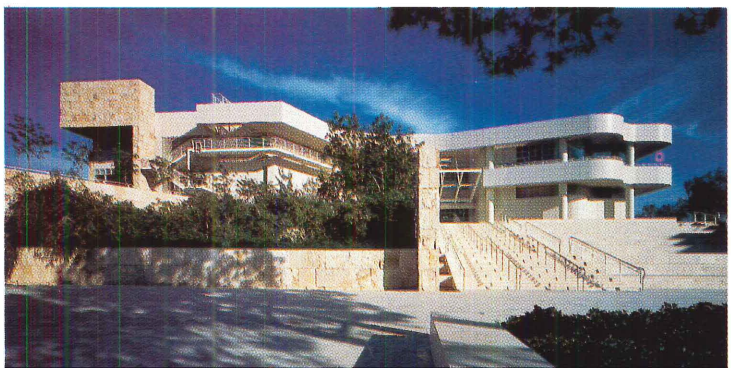
Next year, more than 1.5 million people are expected to visit the Getty Center and its most public part, the J. Paul Getty Museum. But the museum is more than a single building. In fact, it consists of five two-story-high gallery pavilions surrounding a central garden courtyard for a total of 55,000 sq ft of exhibition space. Richard Meier's design of the new museum was influenced by the ease of passing back and forth between gallery and garden courtyard at the Getty villa in Malibu. (The villa, now closed for a renovation and addition project being designed by the Boston-based architectural firm Machado & Silvetti, is currently scheduled to reopen in 2001 as a center of ancient art.)

Meier contends that the openness of the multistory entry rotunda quickly communicates the museum's unique spirit to visitors. "Because of that lobby, visitors are able to see at a glance that the museum is not really a single building," explains Meier. "They might walk through the pavilions clockwise, which will let them see the collection in chronological order. But they might just as easily go straight into the central courtyard and start on the right-hand side, with the pavilion for temporary exhibitions."

The arrangement of the pavilions offers a variety of informal outdoor spaces, Meier explains. "It is not something we imposed. We drew it out of the topography."

The windowless lower-floor galleries are reserved for drawings, illuminated manuscripts, and photographs. Also on the lower floor is a suite of 14 galleries devoted to the decorative arts collection, which includes several complete rooms based on designs from the 17th and 18th centuries. Upstairs, the sculpture and painting galleries have skylights and a specially designed louver system, and they are interconnected by glass corridors. Conservation studios, staff offices, and below-grade art registrar offices and art-handling areas comprise the remainder of the museum's 360,000 gross sq ft.

"It's as if there are two different buildings," says Associate Director and Chief Curator Deborah Gribbon of the vying functional demands of the galleries and the three floors below grade. "First we talked [with Meier and his architectural team] about the galleries—what the nature of those spaces should be—and then we shifted our attention to the nitty gritty of the floors below ground, which are intensely complicated and must accommodate many different users and were in fact given Richard's complete attention. That occupied several years. Then we turned our attention back to the specifics of the galleries." Adds Barbara Whitney, Associate





PHOTOGRAPHY: TOM BONNER/©GETTY TRUST



Meier says he studied the Spanish Steps in Rome for the approach to the museum (opposite). The entry rotunda dominates the central courtyard (right).

Director for Administration and Public Affairs, "We were always working from the inside out."

Meier also designed transition spaces for each pavilion, which allow for visitors' eyes to adjust from the sun-drenched courtyards to the much lower light levels in the galleries, and which also help control fluctuations of heat and humidity from visitors entering and leaving. Each pavilion has a skylit two-story lobby and an adjacent room with interpretive information on each collection on view and computer terminals offering access to in-depth information about the collections overall.

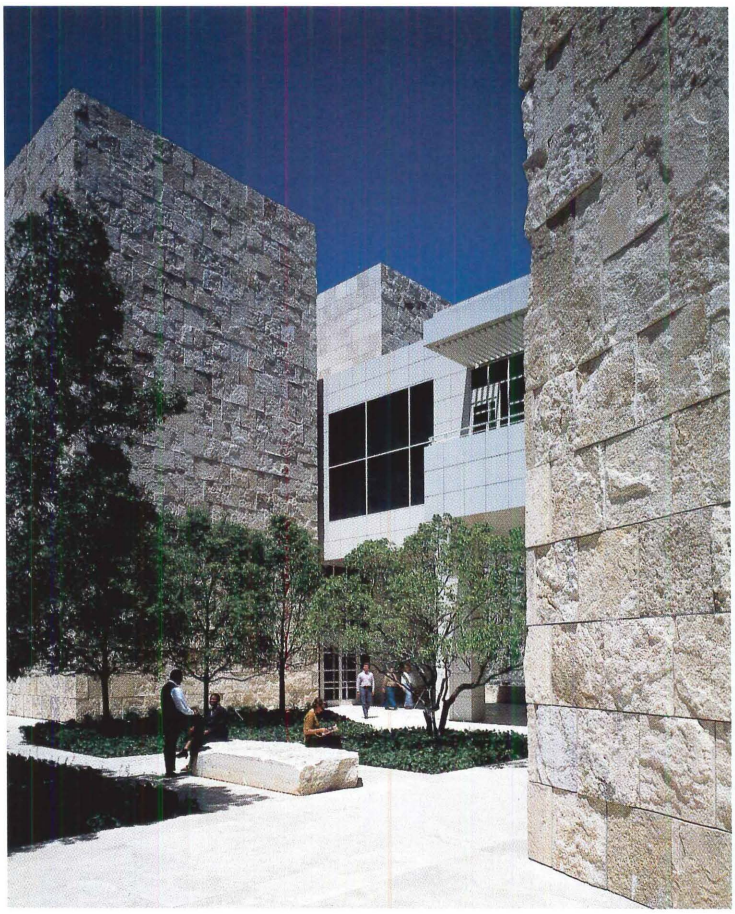
Museum Director John Walsh had specific ideas about how best to present the works of art inside the galleries. Of Meier's response to the museum's mandate, Walsh says: "Because he was required to take a functionalist view of lighting in the galleries, where the light had to behave in certain ways [so it didn't overexpose and potentially damage the paintings], you couldn't splash the walls with it, which he does brilliantly in the public spaces." For the daylit galleries, "The whole idea is repose, naturalness," explains Walsh. Says Meier's partner, design architect Michael Palladino, "Walsh's idea of lighting was a revelation to me. I had always heard from museum directors and conservators that there was a perfect light level. Here there is a range."

To achieve the desired lighting levels and overall spatial effect, a gallery mock-up was built on site a year in advance of the actual spaces. "We learned as much as they learned," reports Jim Hearn, Dinwiddie Construction Company's superintendent in charge of the museum. And when the time came to build the real thing, the subcontractors "were more at ease," says Hearn. Palladino agrees. "The mock-up gallery and the lighting testing took out a lot of the guesswork. It was invaluable in getting consensus. And the contractor knew what the expectations were."

Meier's tendency to generously splash light through interiors served him and the museum well in other spaces. "Below grade was the place that Richard's love of light and his desire to have it penetrate every single space was, to us, an added bonus. He got all that light in three levels below grade where in most museums there's never any daylight," observes Whitney.

The elaboration of the gallery spaces was also a *(text continues)*





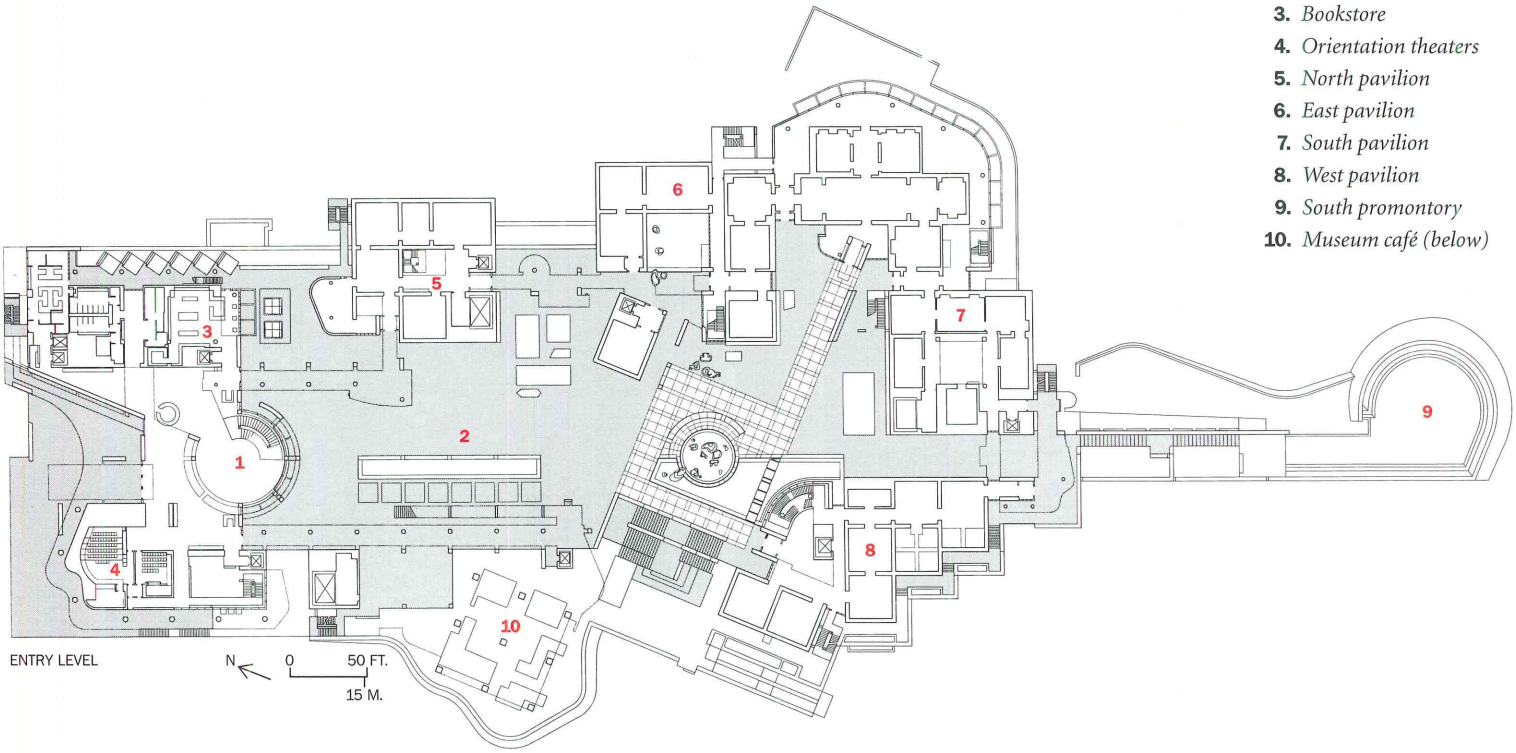


Travertine-clad gallery pavilions grouped around a courtyard (below and top right) are connected by glass corridors (above).





The central rotunda will remain mostly open, allowing visitors to pass easily between inside and outside.



TECHNOLOGY

Precise control allows Pacific daylight to illuminate art. Richard Meier's office wanted to keep the blue sky visible in otherwise windowless art galleries. This may not seem much to ask, except when curators desire lighting that is beautiful but does not damage extremely precious artworks. Getty officials agreed they would like to see the sky, too, as long as no direct sun fell on works of art.

Working with the curatorial staff, Meier's office developed "standard" galleries of cube and double-cube proportioned rooms. The ceilings slope up to skylights (section, opposite) glazed in neutral-tinted glass of only 35 percent transmittance. (Similar criteria applied to the shed and inverted-V skylight variations.) Lighting designers Fisher Marantz Renfro Stone built mockups to test daylight and electric lighting schemes. And one actual gallery was completed early to verify design assumptions.

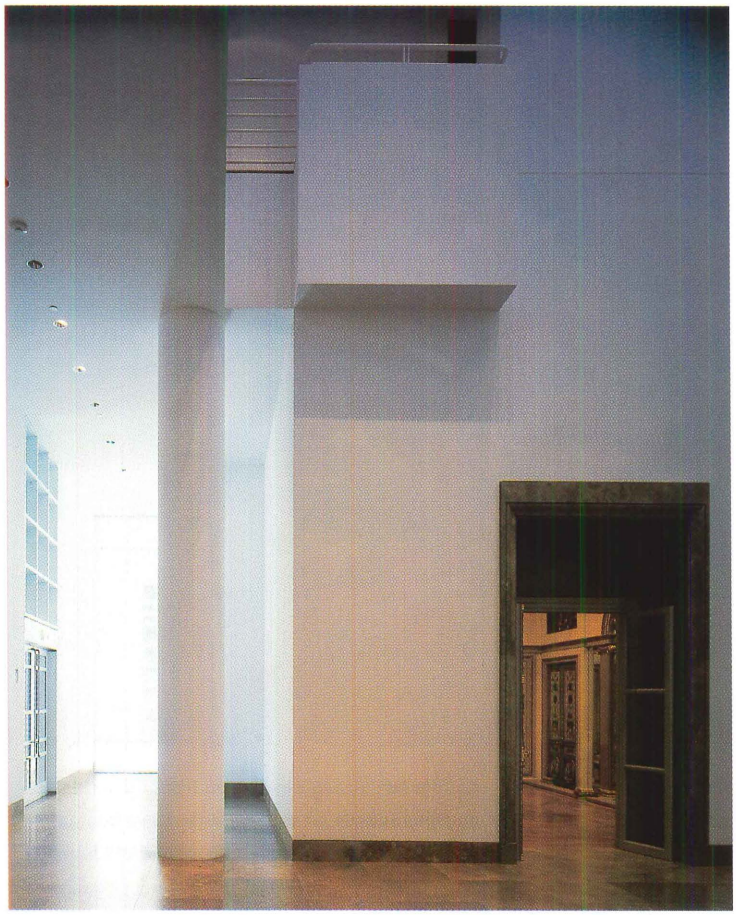
The Fisher Marantz team had worked with Venturi Scott Brown and Associates on London's Sainsbury Wing, where the galleries had a similar shape, inspired by Sir John Soane's Dulwich Gallery. Using a combination of skylights, operable louvers, translucent glass, and clerestories, the London galleries provide daylight in a far more diffused way, and lighting for the art depends more on electric fixtures. With light in Southern California both more plentiful and more dependable, the Getty designers devised a simpler system. Outside the glass, between stone-clad parapets, an automated louver system, custom designed by C/S, protects all the gallery skylights. (The blades run east-west so that they open north-south.) The louver system is timed to open as much as 45 degrees depending on season and time of day. The blades open northward, but they can rotate 135 degrees to open southward when needed.

Three photocells per gallery measure the actual ambient light and override the preset levels as needed. With the diffusing effect of the sloped walls, the paintings are entirely lit by daylight, and the light levels vary throughout the day, maintaining an average exposure of 250 lux (about one-fourth the level of a brightly lit office). When light levels fall at dusk or on cloudy days, the photocells cue a gradual dimming-up of a set of special low-voltage 100W quartz lights filtered blue to match the color of daylight. The fixtures and photocells are recessed on tracks below the skylights (detail, right). At night a second set of matching unfiltered lights comes on as well as exterior lights that bounce light off the closed louvers into the galleries.

Lights must throw beams an unusually long 40 ft, but manufacturer Edison Price was able to meet both California's strict energy requirements and the Getty's required lighting levels using 100W lamps. The company devised a special yoke that angles the lamp over the edge of the recess and lock-downs so that lamp replacement would not compromise the fixtures' precise focus. Lamps are replaced through a roof access panel. Lutron routed controls through the museum's building-management system; both curatorial and operations staff may monitor gallery status. *James S. Russell*

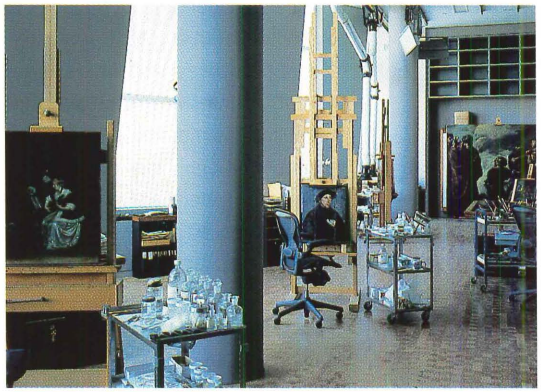


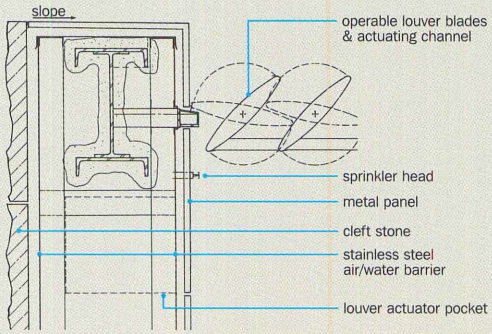
PHOTOGRAPHY: TOM BONNER/©GETTY TRUST (OPPOSITE PAGE MIDDLE)



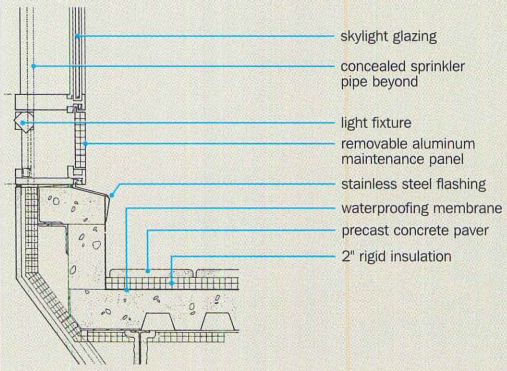


A skylit lobby in the North Pavilion (right) provides a visual break from the colors, textures, and artwork of the galleries. The South Pavilion atrium (left) gives a view into a Neoclassical panel room. The museum's generously daylit conservation laboratory is located in the saw-toothed portion of the east facade (below).

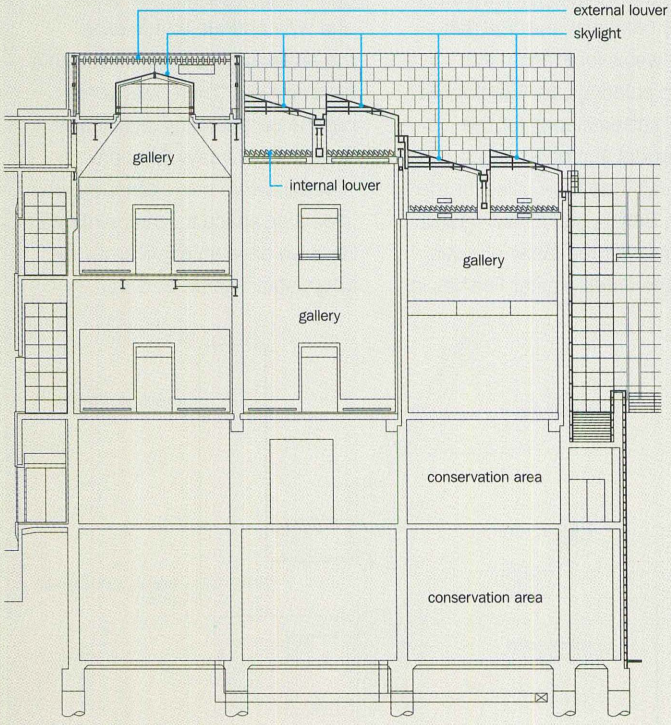




SECTION AT GALLERY SKYLIGHT PARAPET



SECTION AT GALLERY SKYLIGHT SILL



SECTION THROUGH GALLERIES

C/S prebuilt 17-in. louver sections as long as 17 ft (detail, top left). Lighting and photocells were set in a recess below the skylights (detail, left). Gallery building section (above) shows varying skylight and louver conditions.

matter of considerable debate. As Stephen D. Rountree, the building program director during the design process, recalls, "I knew early on that there was a tension between what John [Walsh] wanted and what Richard [Meier] wanted for the galleries. There came a point when we weren't making progress, so I asked Thierry Despont [who had already completed his design of the lower-floor decorative arts galleries] to be a facilitator in the upper galleries in terms of the finishes and colors for the gallery walls. The result is more Richard than John, who became more comfortable with a modern vocabulary."

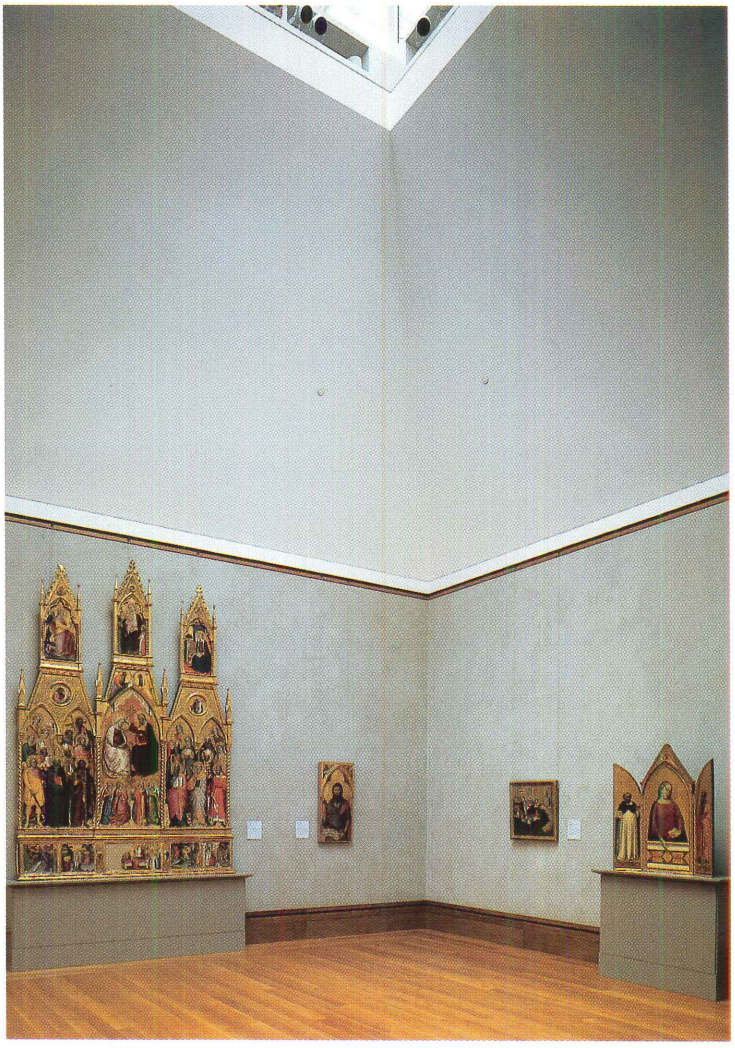
Of his choice of finishes for the painting galleries, Despont says, "I thought the fabrics should be fairly flat or very stretched so that they would respect the quality of Richard's space. For sculpture, I thought it would be nice to have the naturalness and classic quality of plaster walls."

Despont worked with the museum staff to choose a range of lush wallcoverings: from "Medici Red" cotton velvets for the 16th-century paintings and "Belgian Green" wools for French and Flemish paintings, to "Rembrandt Brown" cotton blends for the Rembrandts and other Dutch paintings and "Getty Blue" silks for the French, British, and Italian "grand paintings." Yet the fabric choices, unlike the tinted plaster finishes in other galleries, are by no means final, at least for Despont. "The fabric and painted rooms are meant to be able to be changed after two years," claims Despont. "Are the fabrics frightfully expensive? No. Is the detailing such that they are easy to replace? Yes. Taste changes so fast; taste evolves. Why think that you forever have to have galleries that are in the 1997 opening state?"

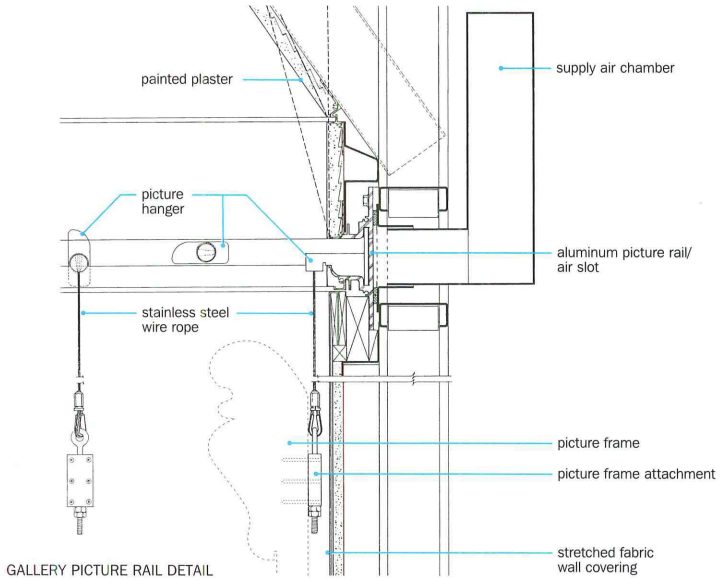
What's more, the collection itself is in a constant state of transformation. Since J. Paul Getty's estate was settled in 1982, the museum has spent nearly $1 billion on art acquisition and it continues to add to its collection. While some significant purchases were made while the Getty Center was being designed and built (most notably, perhaps, Vincent van Gogh's *Irises* and more recently a coveted Fra Bartolommeo panel), the pace has not been as frantic as outsiders might speculate, say museum authorities.

"The collection didn't grow as rapidly as we thought," explains Gribbon. "We collect opportunistically, depending on what's available." Important purchases did and will continue to influence the arrangement of artwork within the galleries. "There was some calibration [following significant acquisitions]," says Gribbon. "Overall, we've been generous in allocating space for the paintings. Here we have an opportunity for long vistas." *Karen D. Stein*

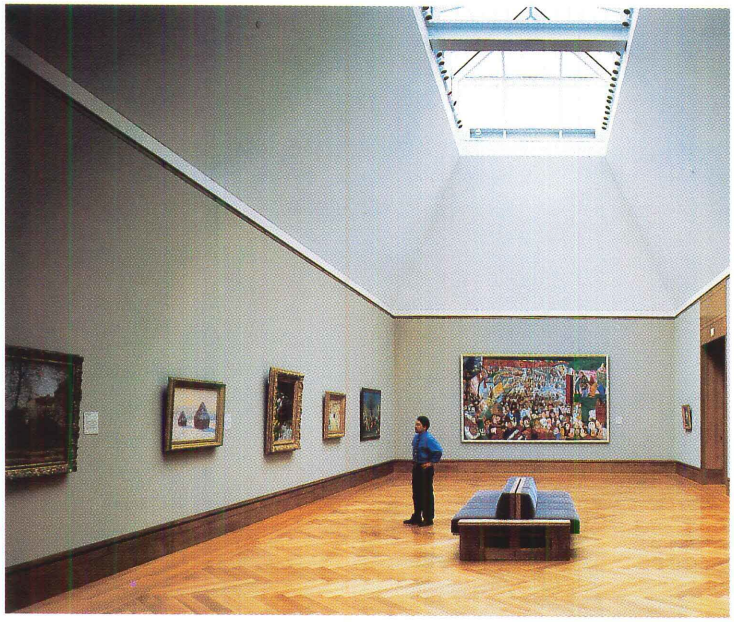


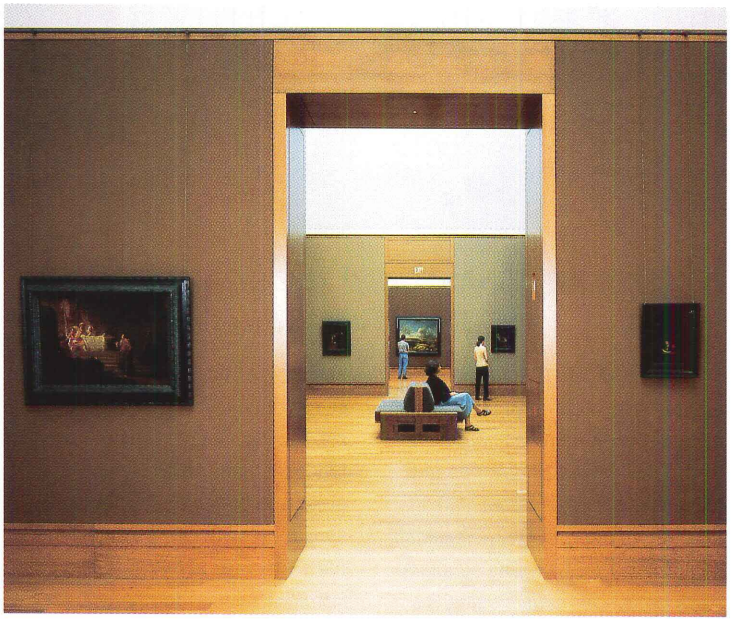


The decorative arts galleries (above; opposite page, middle and bottom left) are in windowless spaces on the ground floor. The second-floor painting galleries have custom skylights and louvers.



GALLERY PICTURE RAIL DETAIL

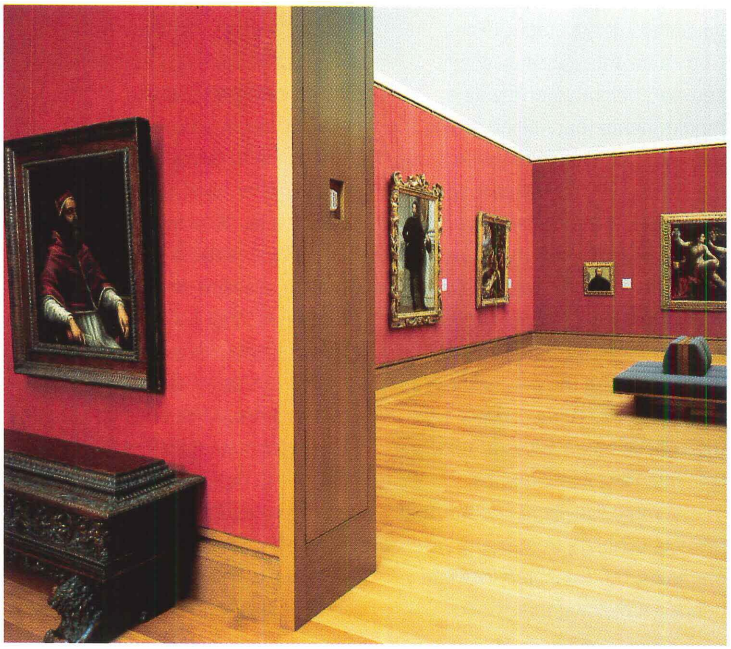


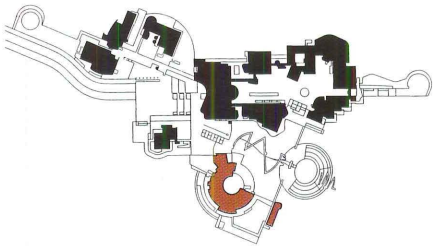












A "SECULAR MONASTERY," THE RESEARCH INSTITUTE SETS ITSELF APART

The scholarly arm of the Getty, the Research Institute for the History of Art and the Humanities houses a library with 840,000 volumes and offices for a staff of about 150. In addition, the 201,000-sq-ft building has offices for 30 visiting scholars, study carrels for guests using the library on a day-to-day basis, seminar rooms with views of the Central Garden, a 120-seat auditorium, and a small exhibition space.

While the Getty Museum had a strict program due to the special needs of the artwork, the Research Institute offered Richard Meier and his associates a chance to be more free with their architectural forms, explains Thomas Reese, deputy director of the institute. The result is a building that is more typical of Meier's work than the museum but also is more visually expressive, says Reese.

Because the Research Institute is the Getty building closest to a residential area, homeowners in nearby Brentwood were particularly concerned about its design. Rigid guidelines negotiated with the Getty's neighbors established setback, height, and view-line requirements that helped shape the massing and design of the building.

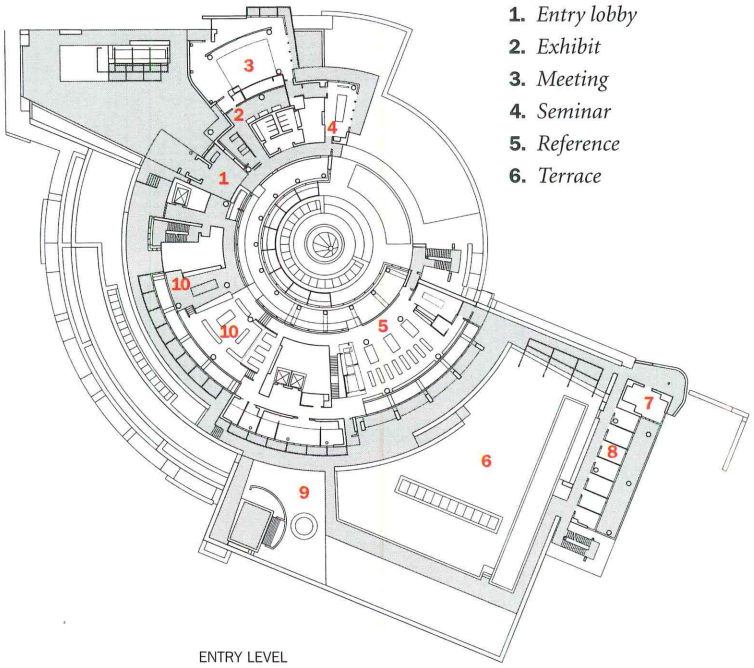
The architect's response was to tuck all of the closed book stacks and some of the library's other functions into a "plinth" terraced into the site's west-facing slope, explains Meier partner Michael Palladino. Skylights along the perimeter of these terraces bring daylight into the spaces below without reflecting light into neighbors' homes.

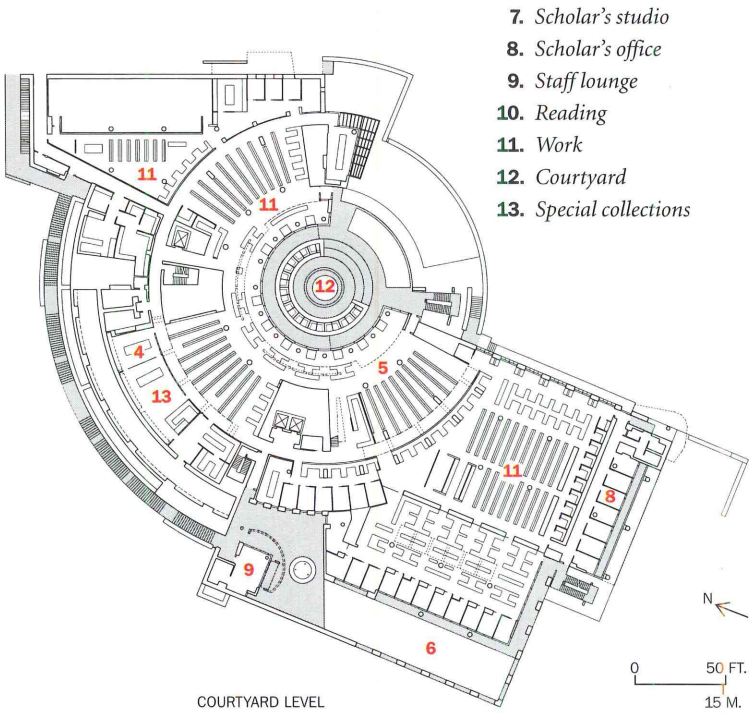
A multidisciplinary center that attracts scholars from many different fields, the Research Institute needed a building that would encourage interaction between staff, scholars, and visitors. Given a pie-shaped diagram showing which functions need to be close to each other, the architects turned the simple drawing into the building's parti—a circle allowing easy access from one section to another.

As the design developed, the architects sliced a wedge out of the southeast quadrant of the circle to open views to the Central Garden and glazed the interior perimeter of the building so people could see at a glance what was happening in other parts of the institute. "The building reflects a sense of integration," says Salvatore Settis, director of the Research Institute. Visiting scholars, who spend up to a year at the institute, can set up shop in one of three locations: on an upper floor where offices form "an academic village," in a "scholar's tower" separated from the circular building by below-grade book stacks, or in a part of the stacks area itself.

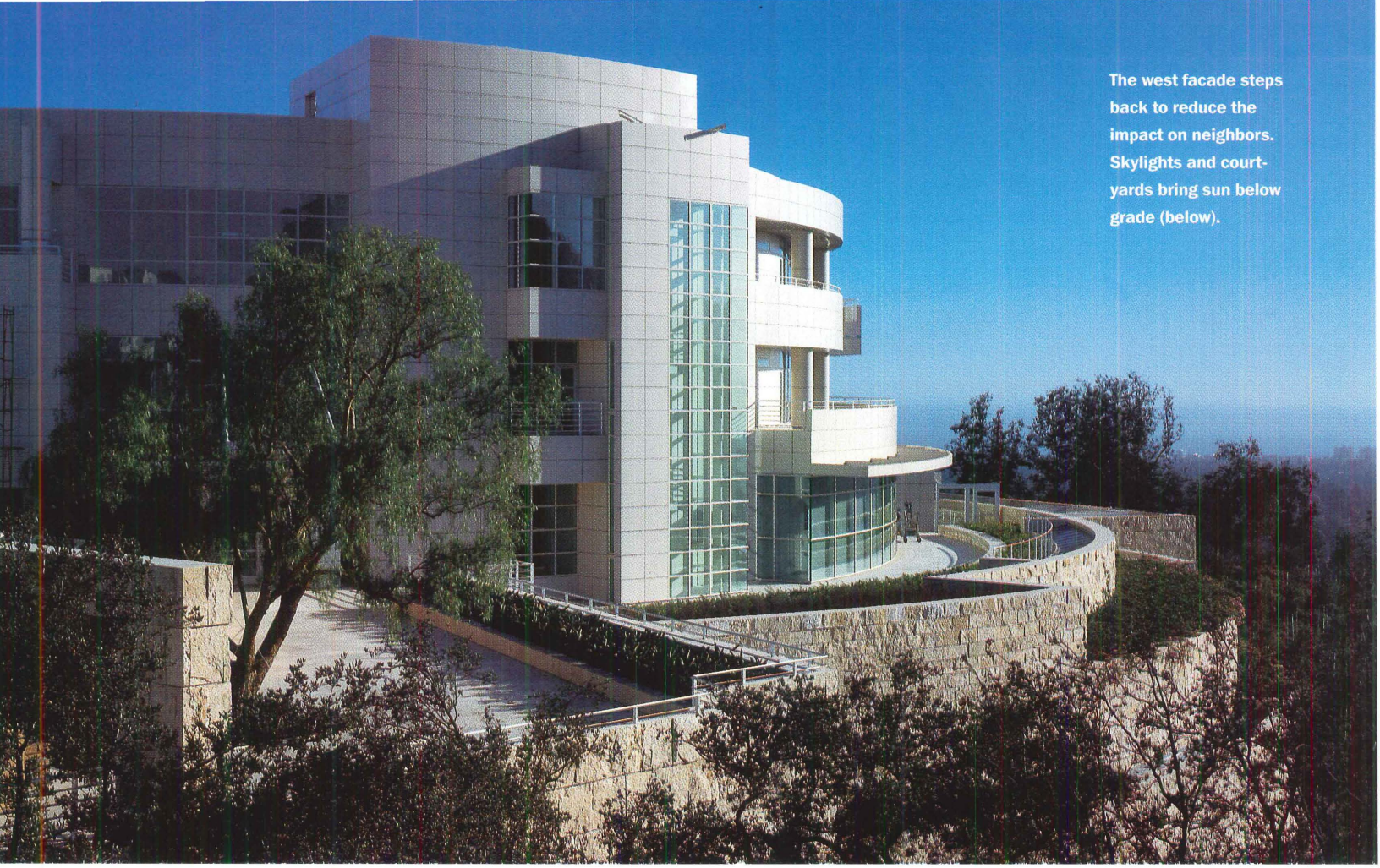
Less public than the museum or the auditorium, the Research Institute is set slightly apart from the rest of the Getty campus by a stone-clad gateway and by its inwardly focused circular form. According to Reese, former director Kurt Forster used to refer to the institute as "a secular monastery."

Once inside the building, though, a sense of transparency takes over. Floor-to-ceiling clear-glass curtain walls provide views of the central courtyard from the upper floors, while book stacks on lower floors are arranged in a radial pattern to provide views to a central skylit space. The architects had wanted to create an interior ring of space extending from the lower level of stacks to the upper floors of





The west facade steps back to reduce the impact on neighbors. Skylights and courtyards bring sun below grade (below).







offices, but fire codes restricted what could be done. Though the upper office floors ultimately had to be separated from the tall space by glazing, a sense of openness remains—thanks, in part, to daylight coming from above and a dramatic curving glass ramp that leads from the entry to the courtyard level.

To one side of the ramp, a series of rooms for periodicals and reference materials flow one into the other, each a couple of steps down from the previous one. On upper floors, curving bookcases line the circular corridor, encouraging scholars to browse in this common space and interact with others.

The circular plan with non-structural partitions separating different areas was designed for flexibility. Indeed, even before the building was completed, its ability to adapt to changing needs was tested when the clients decided they needed seminar rooms on each of the floors above grade. By shifting interior walls along the building's great curve, the architects carved out space at the open end of each floor for a seminar room.

Reviewing the Research Institute's new home, director Settis states, "It's powerful and flexible, and it gives us a strong image." *Clifford Pearson*



Steel framing over a concrete plinth makes the building lighter, an advantage in a seismic zone. Clear-glass curtain walls (opposite) are protected from sunlight by gray fabric scrims. A ramp made of two layers of glass planks (right) leads from the entry. Stacks are laid out radially to preserve views (below).



NINE MONTHS OF RESEARCH AND DEVELOPMENT YIELD STONE FABRICATION INNOVATION

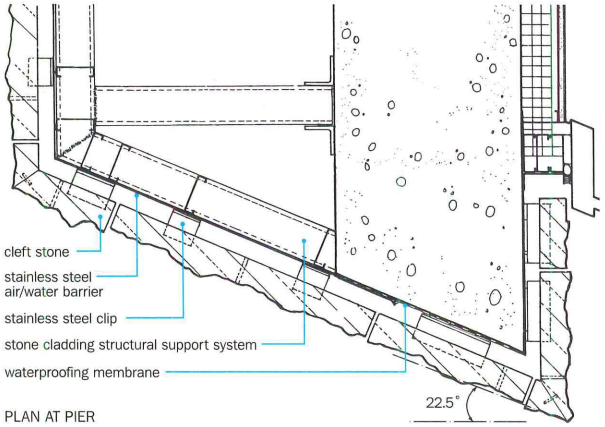
The battered stonework at the Getty Center is Richard Meier's biggest departure from the elegantly sheer language of metal and glass that has been his signature for 30 years. It is through the stone that Meier wanted to "ground" the Getty complex in the blond tones of the site's prevalent Santa Monica sandstone.

As early as 1989, "stone samples began to arrive from all over the world," says principal James Crawford, of Meier's office. Granites, sandstones, and limestones were all considered before the team settled on a supplier, DBM Hatch, and "Roman classic" travertine.

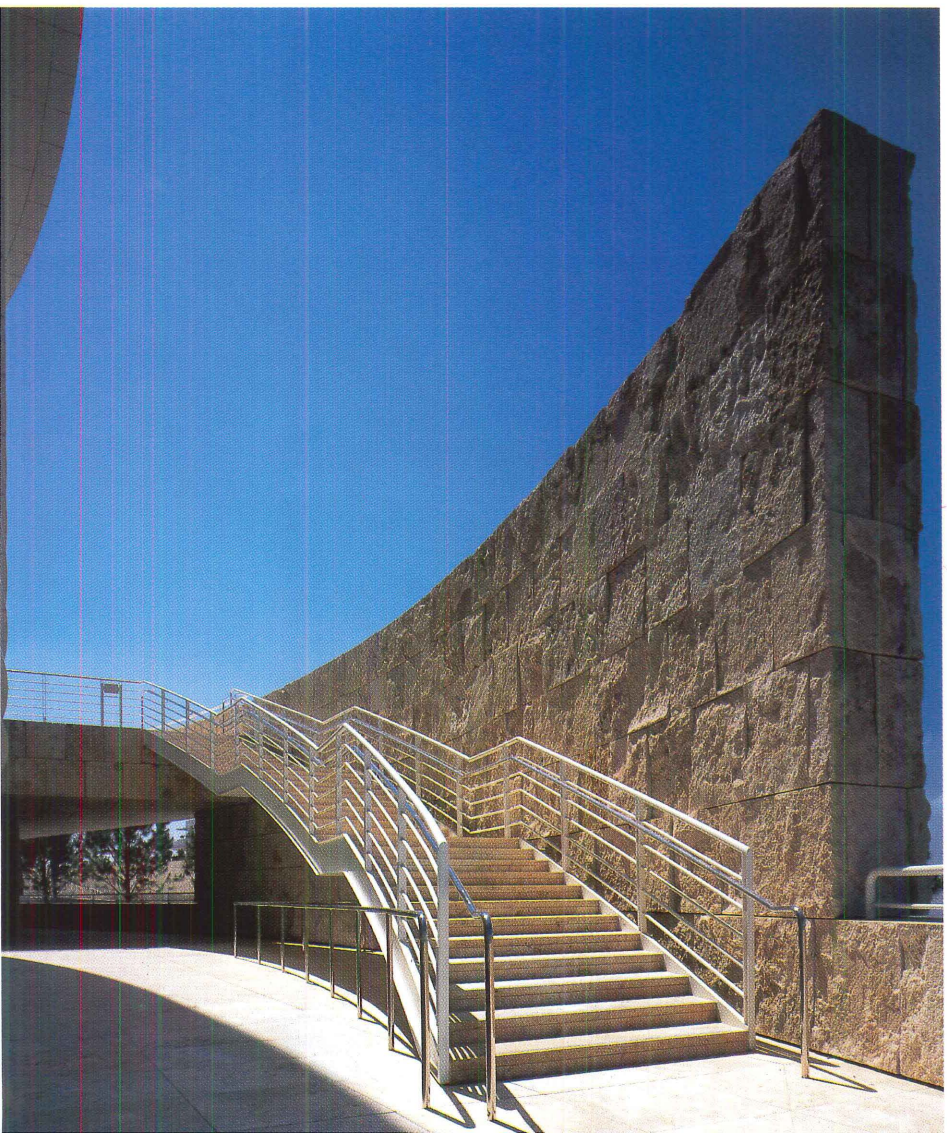
The standard honed finish of the travertine when seen at great distances and across vast wall areas "looked like wallpaper," says Crawford. It took almost nine months of work with Carlo Mariotti, of the Italian stone firm Carlo Mariotti and Family, in Bagni di Tivoli, to devise a suitable fabrication technique. Mariotti used a guillotine to split the 30-in. square stones along their bedding planes, giving them the texture Meier sought (below).

Because the guillotine would crush all but large stones, pavers were sawn out from the middle after clefting. Outside corners were made by laminating matching cleft faces onto the sides of pieces. The mitered joints are all but invisible.

Open joints and air space behind the stones allow drainage from the waterprooofed cavity (details, right and opposite). Lacking sealants that require maintenance, pick up dirt, and may stain stone, the open joints also allow the stones to move independently in an earthquake. *James S. Russell*

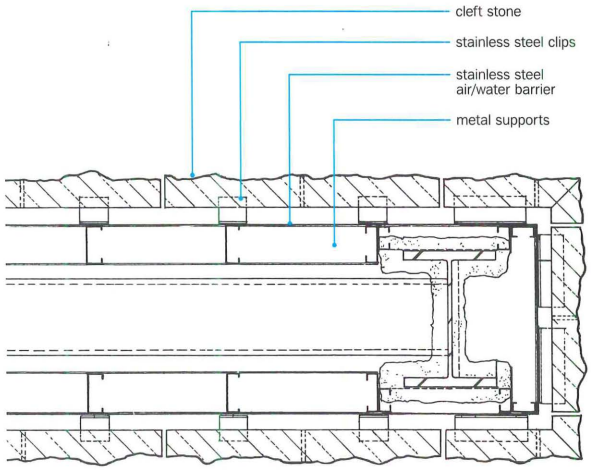


PLAN AT PIER

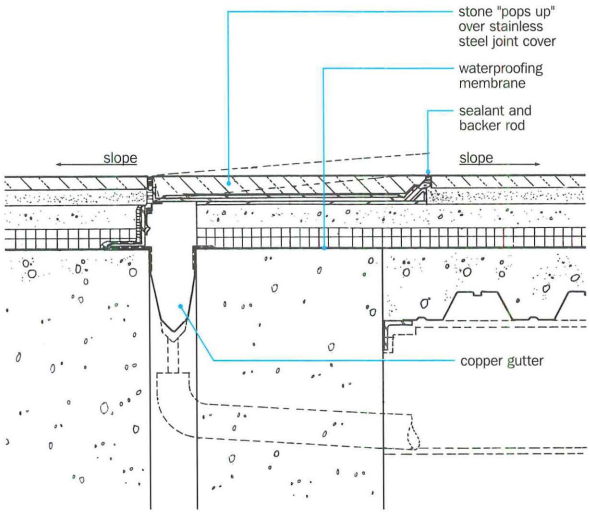




Each stone's cleft surface varies as much as 7 cm, or 2 3/4 in. Stones bearing the many fossils revealed during the cutting process were reserved for positions where they could readily be seen by passersby. The stone was clipped to a waterproofed backup of concrete or metal, depending on the support condition (details, top).



PLAN AT PIER



PAVING SECTION AT SEISMIC JOINT

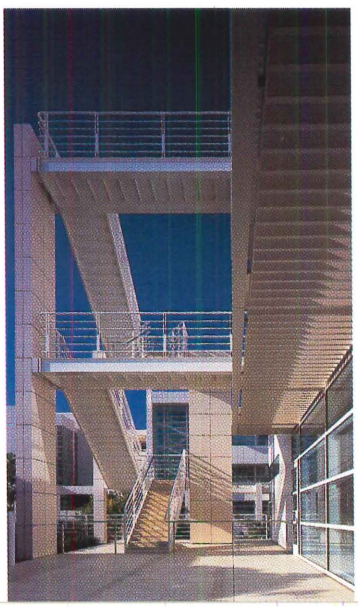
The Getty was constructed to high seismic standards. A pop-up stone paving panel avoids a metal-plate cover over a drained 5-in. seismic joint (left).

A CURTAIN WALL'S CRISPNESS BELIES COMPLEX INTEGRATED SYSTEMS

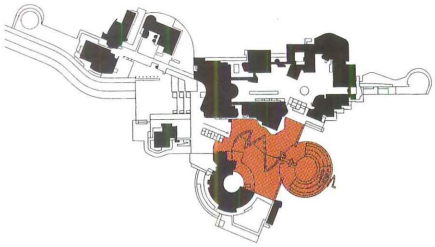
Like the Getty Center's stonework, the curtain-wall system is open-jointed, separated from the waterproof backup by a ventilating air space. The open joints permit lateral motion in earthquakes. If they had been joined with sealant, the joints would need to be twice their 3/8-in. width to meet seismic requirements.

Getty management supported Meier's desire to coordinate the location and appearance of the enormous variety of visible mechanical and electrical items. Both Meier's office and Getty management credit Harmon, Ltd., a curtain-wall fabricator and subcontractor, for handling the logistics such close coordination entailed. Skylight mullions in the galleries, for example, not only contain a sprinkler pipe and heads but also include wiring and nearly invisible heads for motion and smoke detectors.

One example of Harmon's inventiveness is the fact that instead of cantilevering the brise-soleils from the building's structure, the company fastened cantilevered tubular aluminum screens to the reinforced curtain wall itself, thereby avoiding leak-prone penetrations. (At 5 by 15 in., these are the largest tubes yet extruded, says Harmon's Brad Kumbera.) Especially challenging was the one-story-high sliding museum rotunda entrance wall, made by a firm in Tacoma, Washington, that manufactures subassemblies for Boeing airplanes. The curved glass had to be extraordinarily accurate, says Kumbera, because "it is integral to maintaining the 'squareness' of the doors." *J.S.R.*







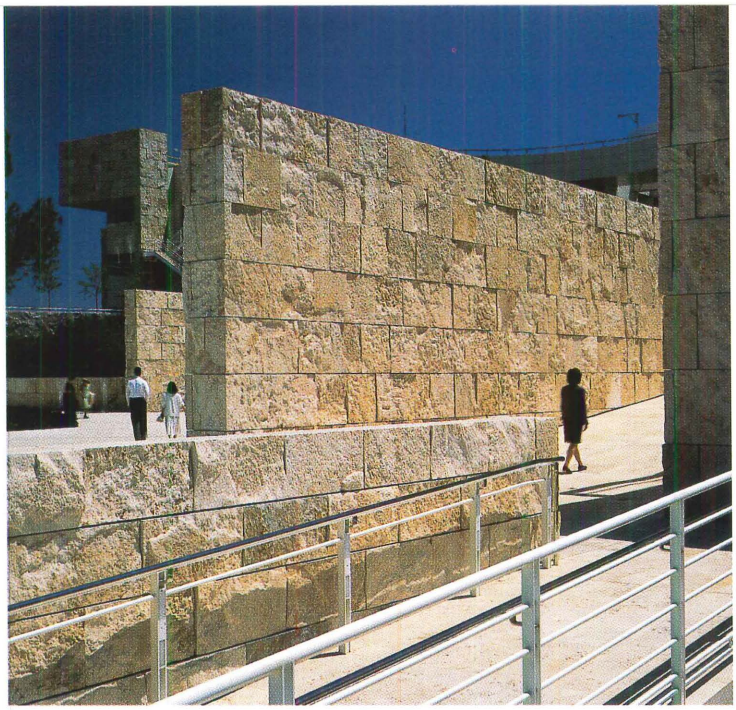
GARDENS AND COURTYARDS FILL THE SITE, WHILE ARCHITECTURE TAKES CENTER STAGE

Of the 110 acres of the Getty Center site, only 24 are part of the main campus, and out of those some 19 acres were left as outdoor space. Landscaping not only creates a link among the buildings but also makes a park that is itself an attraction for visitors.

Many professionals in addition to Richard Meier & Partners have contributed to the site plan, including Dan Kiley, who early in the project did conceptual studies. Emmet L. Wemple and Associates landscaped the sloped areas requiring remedial grading and the zone of the north entry parking facility. Hanna/Olin, now called the Olin Partnership, joined in 1993, creating an overall scheme for the complex that combines formal and informal courtyards (opposite) planted with trees, shrubs, and flowering plants, many native to California.

In 1992 San Diego–based artist Robert Irwin was commissioned by the Trust to design the Central Garden (below right), a 134,000-sq-ft work of foliage art that reestablishes a natural ravine between the new J. Paul Getty Museum and the Research Institute. Working with Richard Naranjo, the Getty's gardens and grounds manager, and the San Diego landscape architecture firm of Spurlock Poirier, Irwin devised a tree-lined walkway that leads visitors through a variety of garden experiences. The walkway crosses a stream, which flows over a rocky waterfall into a pool beneath a maze of azaleas.

Says Irwin: "This garden is going to have seasons, something you don't see much in this area. The real planting starts next spring, and that's going to take three years of coming here almost every other week to see what's working and what's not. That's part of the nature of this institution: doing research on how one maintains certain things." *Karen D. Stein*





Manufacturers' Sources

Aluminum cladding, aluminum windows and curtain wall: *Wausau Metals*
Aluminum finish: *The Valspar Corp.*
Stainless-steel windows: *A. Zahner Sheet Metal*
Ornamental metals: *Blakeway Metal Works*
Elastomeric roofing: *American HydroTech*
Balanced-door entrances: *Ellison Bronze Co.*
Travertine cladding and pavers: *Carlo Mariotti*
Sealant on stone: *ProSoCo, Inc.*
Weatherproofing seals: *Dow Corning*
Fire-control doors, security grilles: *The Cookson Co.*
Operable louvers: *C/S Group*
Laminated vision glass: *Viracon*
Special glass: *Hehr, Downer, Sumiglas*
Curved glass: *Dlubak*
Custom glass: *GlassTech, UltraGlas, Architectural Glass Design*
Architectural coatings: *Tnemec*
Top pivot hinges: *NT Dor-O-Matic*
Locksets: *Schlage*
Stainless-steel door pulls: *Trimco*
Custom-color panic bars: *von Duprin*
Closers: *Norden, LCN*
Other hinges: *Rixon, Stanley*
Weatherstripping: *Ultra*
Acoustic gasketing: *Zero International*
Hollow-metal doors: *Pacific Steel*
Wood doors: *Anemostat, Brochsteins, Inc.*
Fire-rated vision lights: *TGP (Firelite)*
Wood flooring: *Kentucky Wood Floors*
Plastic laminates: *Pionite, Formica Corp.*
Architectural woodwork: *Wigand Corp., Fink & Schindler, Brochsteins, Inc., R.S. Bacon Veneer Co.*
Window-shading systems: *Levolor, MechoShade Systems*
Furniture: *Donghia, Knoll, Herman Miller, Lowensteins*
Upholstery: *Unika Vaev, Pallas Textiles, Maharam, Spinneybeck, Gretchen Bellinger*
Kitchen equipment: *U-Line, Sub-Zero Freezers*
Stairwell gates: *Washington Iron*
Floor tile: *Graniti Fiandre*
Resilient flooring: *Armstrong, Burke, Deutsche Linoleum Werke*
Carpeting: *Shaw Contract Group*
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Display cases: *Helmut Guenschel, Inc.*
Lateral files: *Steelcase*
Millwork: *Wigand Corp., Brochsteins, Inc.*
Signage: *Carlson & Co., Neiman & Co.*
Tram-stop canopies: *C/S Group, Rudy Art Glass*
Auditorium seating: *Poltrona Frau*
Acoustic ceilings: *The Celotex Corp.*
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Illuminated exits: *Lithonia*
Interior fixtures: *Zumtobel/Staff, Prudential, Lightolier*
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The Palm Garden between the East and North Buildings is one of the contributions of the Olin Partnership, which planned the series of gardens based on elevation and sun exposure: cool greens and purples on lower levels and lighter or hotter-colored flowering plants on higher terraces.

CRITICISM Robert Campbell takes a personal tour through the GETTY CENTER and finds old and new analogies.

It's been said before, and I'd rather be original, but I've got to say it again. The Getty Center is a feast of breathtaking photo ops and marvelous small moments, but it fails to cohere into a completely satisfying whole. This isn't a pan. Under any normal circumstances, you'd say the Getty was a wonderful building. The problem is the level of expectation. Here are a world-class architect at the top of his game, a great site, a billion-dollar budget, and a program rich in functions that often inspire distinguished architecture: an art museum, a library. And the museum is terrific, and so is the library. But the many brilliant architectural instruments don't quite build to a satisfying chord.

An immediate qualification: at the time I made my visit (to meet RECORD's deadline), the landscaping was far from complete. Artist Robert Irwin was still installing his site piece, most of the trees and other plants were yet to come, and there was no water in the big reflecting pool. Like much good Southern California architecture, the Getty is partly an exploration of all the ways you can relate indoors to outdoors. The landscape was designed by titans in the field—Dan Kiley, later replaced by Laurie Olin—and I'm sure it will help, but it's hard to believe it will completely solve the problems. Richard Meier had hoped for much more water—he wistfully mentions the Villa d'Este—a hope that was vetoed by the client, who didn't want to appear to be abusing natural resources in water-starved California. A mistake.

It isn't easy to describe the Getty. The Getty people, including Meier, refer to it as a campus. But I found two other analogies more helpful in thinking about it.

The first analogy is Hadrian's Villa. The same description applies to both: each is a sprawling villa sited on high ground, with a long view, but with higher land in the background. In each, water features are the strongest accents. And each is organized by two grids that collide at an angle of about 20 degrees (22.5 at the Getty), with cylinders acting as pivots from one grid to the other.

The grids, says Meier, respond to the street grids of downtown Los Angeles to the east and of Santa Monica to the west. But you're unaware of any such geometric context when you're on the site, and Meier has often employed rotated grids. They are a device that grew from the need that was felt, in the 1960s, to create complex form without using applied ornament or symbolism.

Hadrian's Villa offers one way of thinking about the Getty. It existed in order to be appreciated: a retreat for a romantic longing to wander and think poetic thoughts amid caves and pools and sculpture. Meier imagines you behaving that way, too: strolling in and out of galleries and gardens, in and out of the sun, on an isolated Olympus far from the city. The Getty's dark but skylit galleries are the architect's equivalent of the underground cryptoporticus at Hadrian's Villa, which is daylit as well. Instead of capturing sunlight with marble figures, Meier grabs it with his own architectural sculpture. Both buildings are places to be probed and explored over time, places in which you come unexpectedly on one feature or another.

The crucial corollary: There can be no single large ordering principle, no master narrative that governs your experience of the Getty. In his museums in Atlanta and Barcelona, Meier uses the act of procession as such a principle. Your movement through space, intensely choreographed, becomes the story of the museum. At the Getty Center, Meier chooses not to focus your perception in any such dramatic manner. You're attracted this way and that without ever arriving at a place of centrality or rest. It's the opposite of an epiphany like Louis Kahn's perhaps rather self-conscious courtyard at the Salk Institute in La Jolla, California.

The second helpful analogy is to a hospital. That is, in fact, what the ignorant stranger will surely assume the Getty is, as seen from below on the freeway. Like a hospital, it's mostly white and sanitary. But there's more to the resemblance. The Getty is a fiction in the sense that even though it was all designed and built at once, it appears additive and accretive, as hospitals always are. The lack of any big formal organizing idea makes the Getty look as if it was built one wing after another, donor by donor, over a period of time. From many viewpoints it looks random, even confused.

Admittedly, this quality solves a couple of problems for Meier. For one thing, it saves the Getty from the danger of appearing to be a single overwhelming object. That fact raises an obvious question, and I posed it to Meier: Wouldn't the Getty have been better if several different architects, working within, say, a framework established by Meier, had designed its different parts over time, each one relating carefully to what was already built but each also expressing an individual direction—

Robert Campbell, FAIA, a contributing editor of ARCHITECTURAL RECORD, is the Pulitzer Prize–winning architecture critic at the Boston Globe.

wouldn't the Getty have gained variety and tension and surprise? He replied, "I might answer that question the same way if I hadn't been selected as the architect."

The accretive technique also solves a practical problem. During the design phase, the Getty's six separate institutions were still figuring out what they wanted to become. The additive design method allowed each part to rethink its needs independently of the others. They share a Meier design vocabulary, but they don't have to fit into a formal composition.

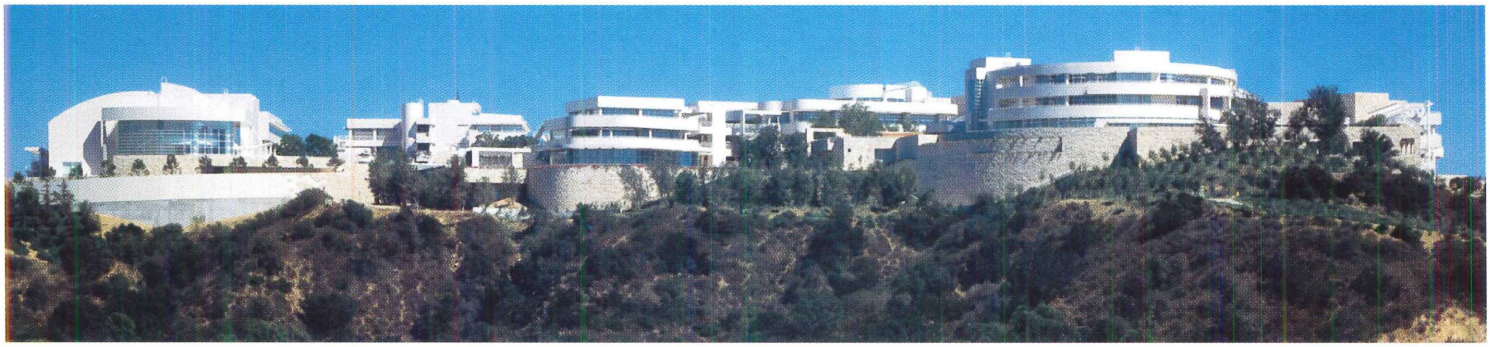
There's a third hospital parallel. It's the organizational idea of the horizontal sandwich of functions. Served and servant spaces tend to occupy horizontal layers, linked vertically by many elevators. A huge service basement, which the public visitor will never see, occupies nearly half the volume of the Getty complex. Here toil the Morlocks, so to speak, serving the Children of Light who flit through the galleries and other public realms. Sometimes there's a third still higher layer of offices, rather like the superstructure of a ship. And indeed there are some views from which the Getty looks like white decks and rigging atop a huge stone hull run aground in the hills. Those are ways of understanding the Getty as a whole. Let's look more closely at particular aspects.

First, the galleries. They're the soul of the Getty, the place you'll spend the most time, where you go to look at the great art (and it certainly is great). The skylit top-floor galleries, the ones that display the paintings (objects are lower down), are magnificent—as good as any of recent decades, on a par, say, with Kahn's at the Mellon at Yale. They are four-walled, roomlike spaces, as befits their traditional contents. They open to one another, but they're very different from the modernist flow of space, measured only by freestanding panels, that you find in Meier's High Museum in Atlanta, a place where the art can seem superfluous in the architectural collage. The Getty galleries are hip-ceilinged and lit from above in the manner of Sir John Soane's Dulwich Gallery, the model for so many museums. You hear endless stories about how Meier was often at loggerheads with the Getty staff and other consultants over these spaces. But however messy the process, the result is successful. The computer control of natural light is sophisticated, both as to color and brightness (a constant 22 footcandles), but the light isn't so heavily modulated that you forget there's a changing, moving sun up there somewhere: you can see blue sky through the operable louvers.

Walls in the various spaces are surfaced in different materials and textures: flat or corrugated linen, applied paint, or paint mixed integrally with the plaster. Each room displays the art of a particular era, and the wall colors often take their hue from a fashion of that era, or from a dominant painting in the space. It's an approach that risks a too-easy nostalgia, as in the Wedgwood blue walls of a gallery displaying 18th-century English art, but it generally works and the paintings have never looked better. Where the paint is integral, the wall surface achieves an amazing optical depth, reminiscent of the backdrops of portraits by the photographer Irving Penn: the paintings seem to drift against a background fog.

I liked the galleries here better than the similar, much-admired ones by Venturi, Scott Brown and Associates at the Sainsbury Wing of the National Gallery in London, where the light is a little too unvarying, and the monotone architecture, failing to assert itself sufficiently as a frame of space, leaves the paintings on the walls as isolated as slides in a lecture (an effect the media-maven Venturis probably like). The Getty hits the right balance: just enough architecture (oak detailing, changing shapes and colors) to articulate space and give the paintings a place in which to exist.

Next, the materials. Above a certain height, the Getty is made of the familiar Meier panels and painted pipe rails. They're a little off the usual pure white, but that makes no real difference. What is different is the travertine. Last spring I had a chance to visit the Mariotti stoneyard near Tivoli, Italy (just a few kilometers from Hadrian's Villa), source of the Getty's travertine. It was a huge job: two containers of stone every day for two years. The stone was split with enormous industrial guillotines to create the roughest possible surface. I guessed then that the split-face wouldn't work aesthetically. The surface is extremely irregular, as much as three inches deep from the outermost protuberance to the innermost recess. The scale seemed overwhelming, and the natural organic variation of the limestone surface seemed lost. But the Getty is so big that the roughness falls comfortably into place. No surface less bold would have succeeded in reading as texture.



SOMETIMES THE LIGHT IS SO TANGIBLE IT SEEMS TO BE A VOLUME INSIDE A SPACE, PUSHING OUT.

The Getty reminds me of Frank Lloyd Wright's Fallingwater (a building Meier has spoken of as a huge influence on his choice of career, although not, so far as I know, in connection with the Getty). The travertine is the same pinkish ocher color as the land around the Getty, and it seems to heave itself up out of the ground like a natural eruption, just as do Wright's stone piers. And then, in both buildings, you get a white, cubist, obviously man-made superstructure. You get the opposing yin and yang of architecture: cave and promontory, nature and geometry. At the Getty, the smooth metal and rough stone kiss like baby and grandpa. Meier doesn't allow himself to *(continued on page 197)*

From Day One at the Getty Center the Exterior Doors of Choice ...

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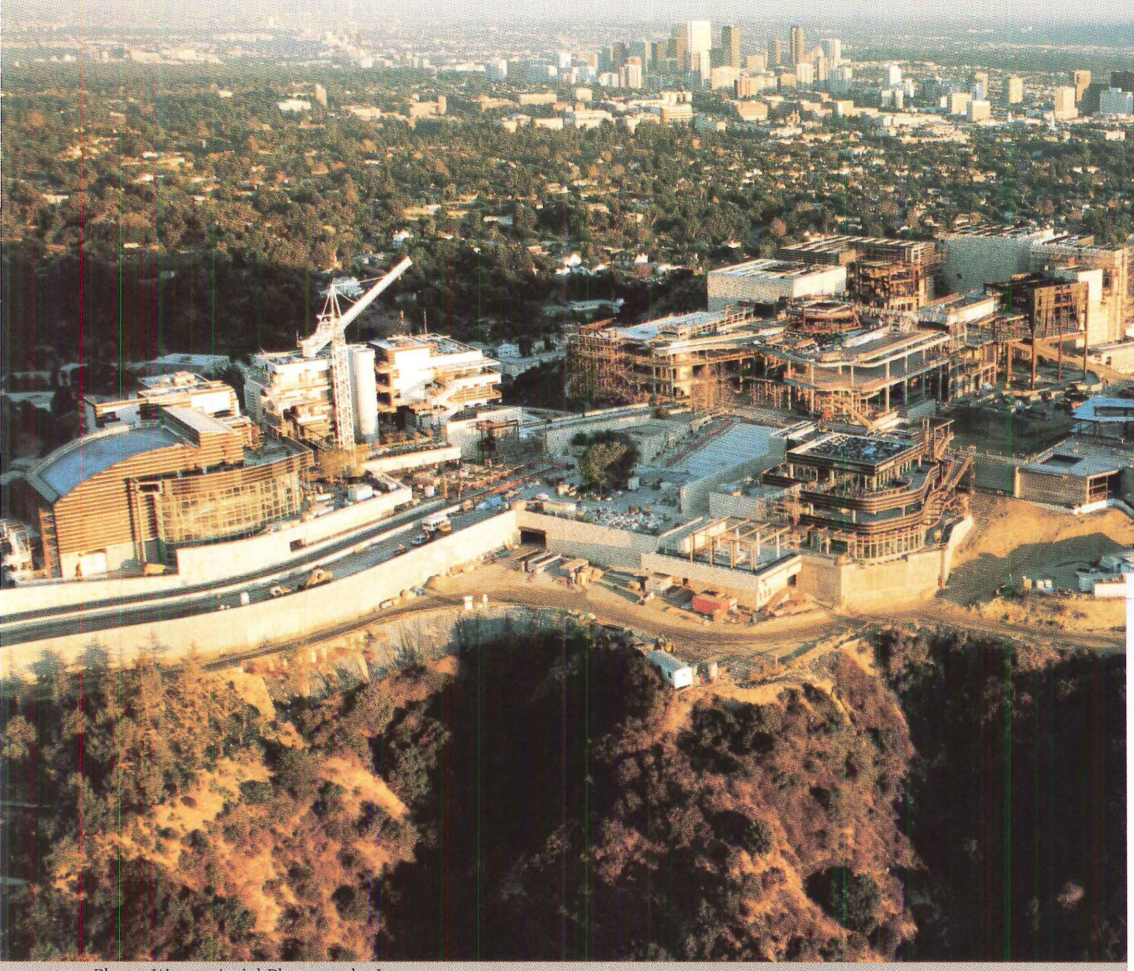


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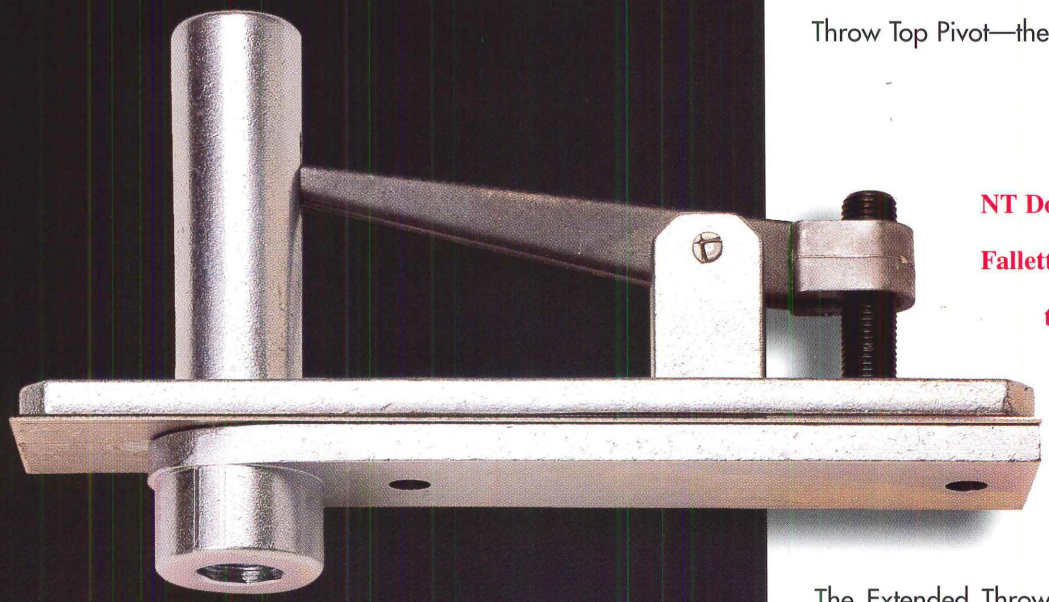
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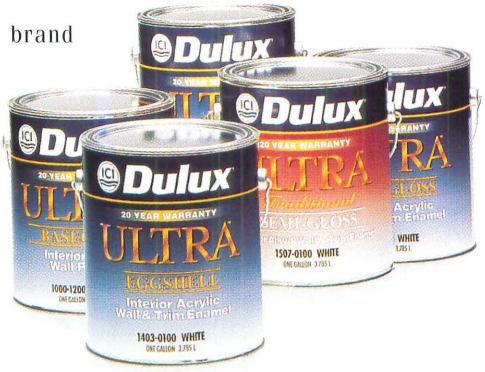
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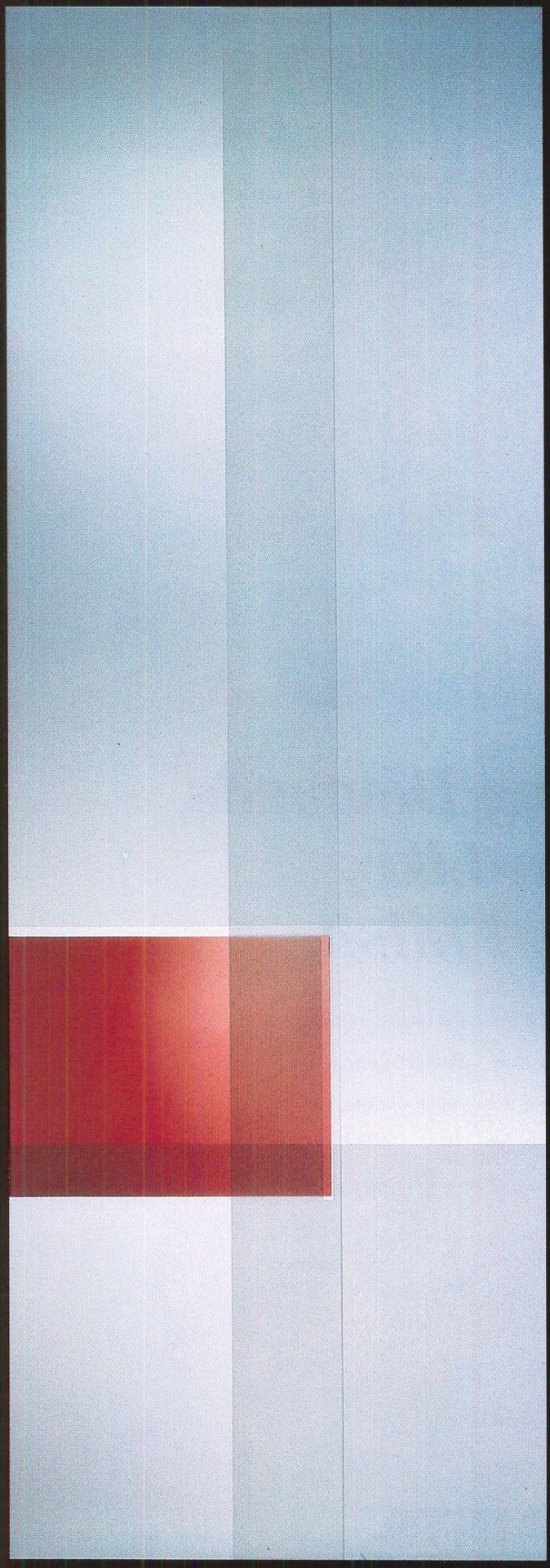


Photo: Misha Bruk

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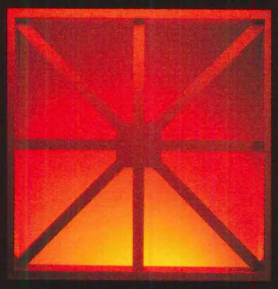
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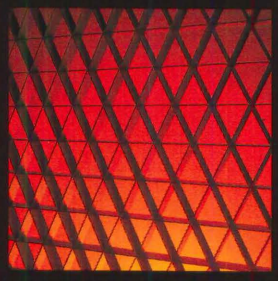
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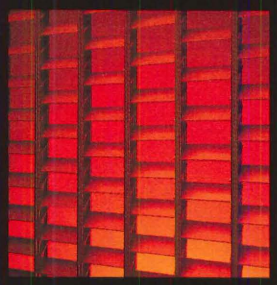
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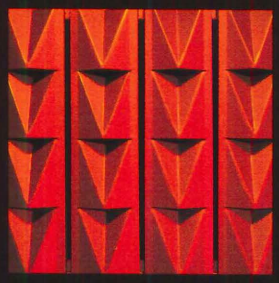
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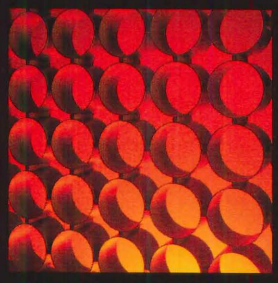


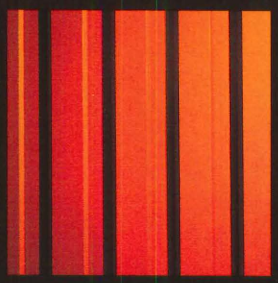
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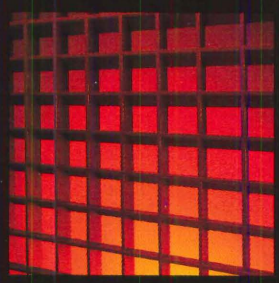
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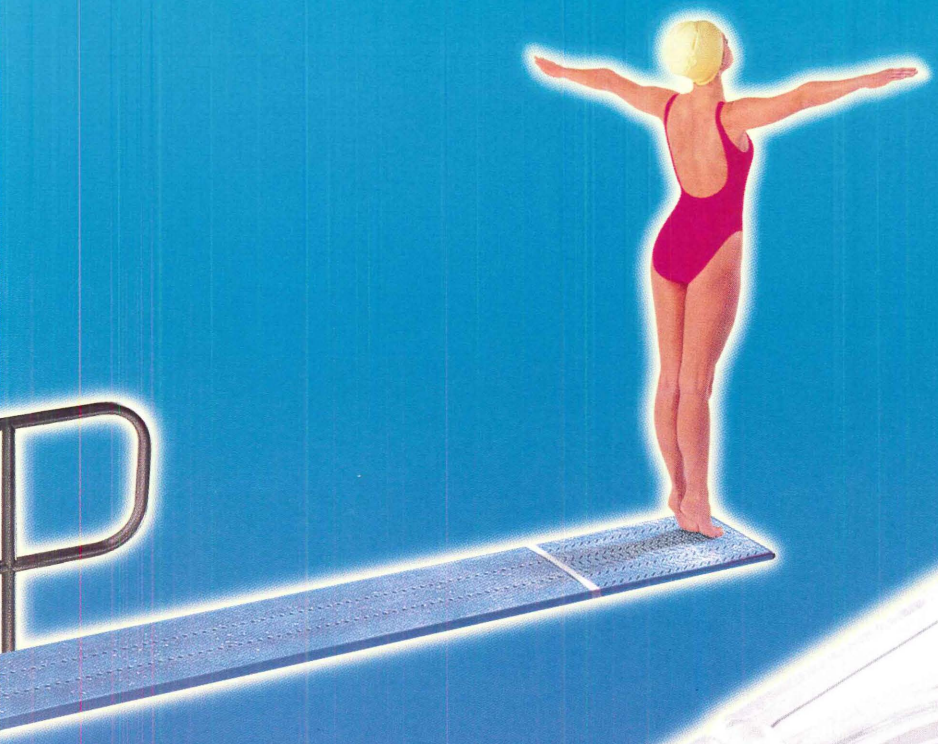




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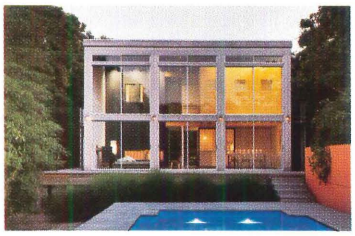
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RESIDENTIAL REMODELING

Who Needs an Architect?

THE REMODELING MARKET IS BOOMING, BUT ENTREPRENEURS AND OTHER DESIGNERS ARE TAKING THE LION'S SHARE OF THE BUSINESS FROM PROFESSIONALS.

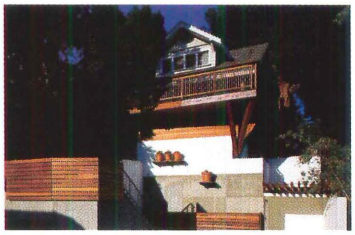
by Wendy Moonan



1

Fire Island, New York

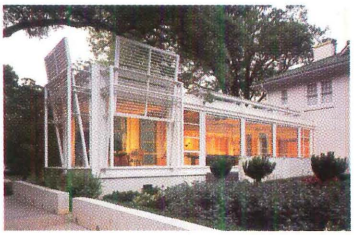
To transform a sad 1950s beach house into a light-filled place for entertaining, architects Roger Hirsch and Susan Frostén had to gut most of the old.



2

Los Angeles, California

After the Northridge earthquake shook things up, Ferguson-Ettinger Architects repinned a cottage to its site and added a series of outdoor elements.



3

Charlotte, North Carolina

Architect Kenneth Hobgood took inspiration from an old pergola in designing a glass-and-steel addition to an early-20th-century home.

The residential rehabilitation business is huge, but architects are getting just a small slice of the pie. Sitting at the table are a range of hungry entrepreneurs and other professionals such as remodelers, interior designers, and contractors, all busy convincing the public that architects aren't needed for remodeling projects.

"Many architects do not accept smaller projects," warns a new glossy consumer's remodeling guide published by the National Association of the Remodeling Industry (NARI). In fact, the 88-page booklet, called "Master Plan for Professional Home Remodeling," is not architecture-friendly at all. Architects are not mentioned until page 16, and there only in a paragraph that reads: "In cases where your professional remodeler does not provide design services, you may wish to seek the assistance of a professionally trained architect." The NARI recommendation? "Your best bet may be to hire a design/build firm."

Almost 40 percent of homeowners plan some type of home improvements this year, according to a Fannie May survey. The National Association of Home Builders reports that the remodeling market in this country grew from $112.6 billion in 1995 to $118.6 billion in 1996. But architects' net billings for remodeling single-family projects was just $265 million in 1996, reports the American Institute of Architects. In comparison, architects billed $1.1 billion for new single-family homes that year.

What is the $118 billion being spent on? House additions, bathrooms, kitchens, great rooms, media rooms, attic bedrooms, and home offices. Who is remodeling? Baby boomers, of course. A 1996 Yankelovich study says the mean age for remodelers is 42.2 years, that 51 percent are male, 74 percent are married, and 12 percent are divorced, separated, or widowed. Some 69 percent work full- or part-time, 80 percent are white, and their average mean annual household income is $45,300. In the survey, 81 percent of the remodelers said they were "furnishing their home so that it is comfortable and easy to take care of."

Remodeling magazine reports that 80 percent of home remodeling is done by professionals, not by homeowners; busy consumers seem to prefer spending money—not time—on their houses. Some of the work is being done by national franchisers like ServiceMaster Residential Commercial Services (of Memphis), some by contractors, and some by architects. There's a lot of business to be done, if architects are interested.

Wendy Moonan is an editor-at-large of House & Garden *and a frequent contributor to* RECORD.

1 Fire Island House
Fire Island, New York

ROGER HIRSCH, DREW SOUZA, AND SUSAN FROSTEN GUTTED AN OLD BEACH HOUSE, THEN TURNED IT UPSIDE DOWN AND INSIDE OUT.

by Wendy Moonan

Project: *Fire Island House*
Fire Island, New York
Owners: *Roger Hirsch and Drew Souza*
Designers: *Roger Hirsch, AIA, Architect; Susan Frostén Architect; Drew Souza Designer*
Consultants: *Kugler Tillotson Associates—Suzan Tillotson, principal (lighting); Designscapes (landscape); Charles Southard Jr. (structural); Reed Karen and Glen Johnson (cabinetry); Art & Design Works of Oregon (metalwork on interior fixtures and furniture); Studio 40 (metalwork on dining table, beds, and balconies)*
General Contractor: *Vincenzo Pepe*

Project Statistics
Size: *1,600 sq ft (renovated), 1,400 sq ft (originally)*
Cost: *$178 per sq ft*
Design challenges: *Building on a car-free island with strict noise ordinances; executing a gut renovation on a 1950s beach bungalow that had been long neglected.*

New York City architect Roger Hirsch, AIA, gives new definition to the word "renovation." In 1993 he bought an abandoned 1950s beach house on a tree-filled, 60-by-160-ft lot on Fire Island, a sandy strip of land in Long Island's Great South Bay, and decided to turn it into a four-bedroom house for weekend entertaining. The house had a sad past. One previous owner had begun a renovation, then stopped after falling ill. The banks took back the house, and just left it—without plumbing or electricity.

Site constraints

"We had to design everything with the island in mind," says Hirsch, who designed the house with his former partner, architect Susan Frostén. "Building on a car-free island with pedestrian boardwalks forces you to transport equipment and materials via ferry and electric cart. Major building work can only be done in the winter. Noise codes forbid loud power tools on weekends. This added to the time and expense."

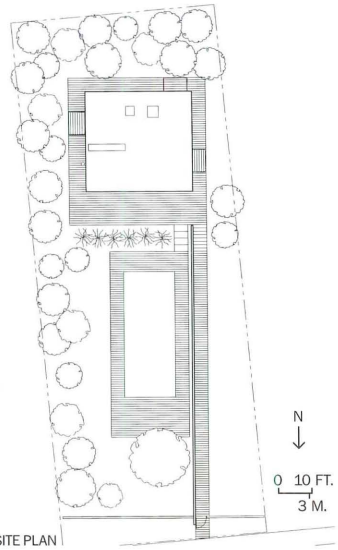
Hirsch loved the house for its leafy, private site—and for the "total challenge" it presented. "It was really like building a house from scratch," he says. First, he decided it was upside down. He didn't like having the kitchen, living room, and dining room on the second floor, above the bedrooms. He wanted the public areas to open onto the pool and deck "like a real beach house," and he wanted the bedrooms up, "so they would feel like treehouses."

Design approach

"We kept what we could, to save money and time. We reconfigured the entire house, peeled off the northern facade and substituted it with glass, added eight feet and a new pool," explains Hirsch. "I wanted you to experience the space, feel the texture of the floor on your bare feet, and see the trees, the stars when you look out the window," he adds. "This house is all about the tactile nature of the materials," adds Frostén. "The form was just one aspect of the design; the physicality and materiality were equally integral to the design."

Expanding the house

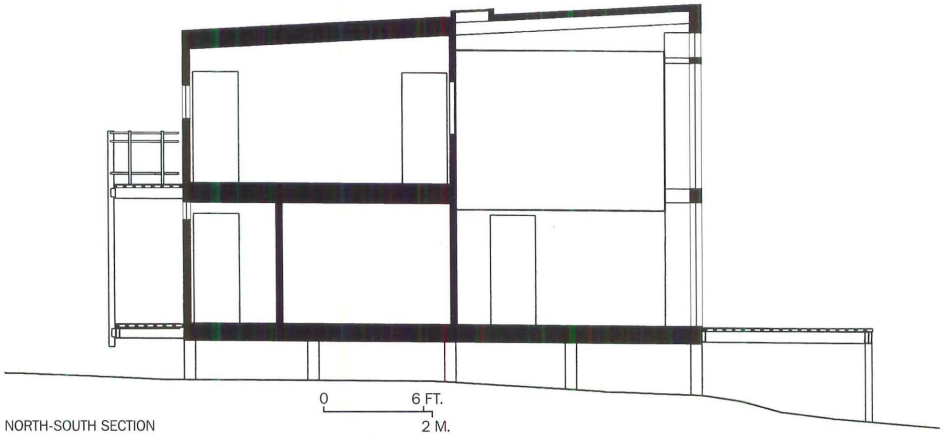
Hirsch dismantled the house, keeping only the roof and the foundation elevated on wood piles. By expanding the house on two sides, he was able to fit three small bedrooms and two bathrooms into the second floor and still have a double-height living room. A narrow skylight was installed in the roof so "the sun can streak into the living room, but in a very controlled way"—through the rafter beams. One second-floor bedroom has a window overlooking the



SITE PLAN



A new facade for the back of the house opens the rebuilt living spaces to a new pool and deck (below and right), eliminating most evidence of the neglected 1950s house (opposite bottom).

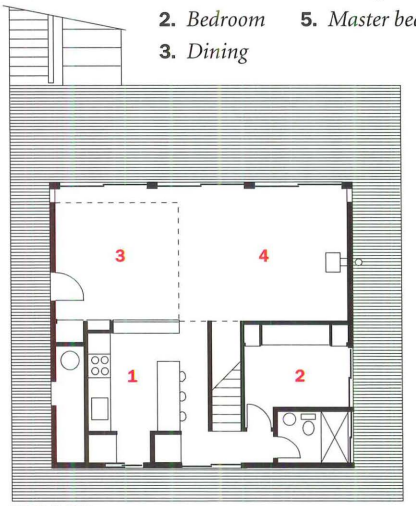


NORTH-SOUTH SECTION

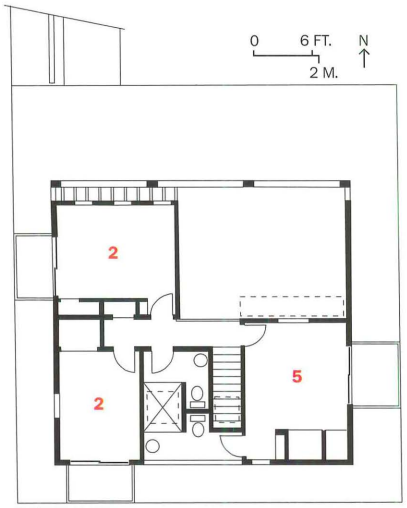




1. *Kitchen*
2. *Bedroom*
3. *Dining*
4. *Living*
5. *Master bedroom*



FIRST FLOOR



SECOND FLOOR





Before renovation, bedrooms were on the first floor of the house and kitchen, living, and dining rooms above. Hirsch and his partners reversed this order (plans, top), so the public rooms would have access to the outdoors. Now views are provided through the stair hall and kitchen (above) to the deck and pool area. A mural enlivens a kitchen wall (top right).

living room and the trees beyond. Another is tucked into a cube that is recessed from the glass facade and appears to float over the dining room.

On the first floor, the dining room is separated from the kitchen by a translucent theatrical scrim. An open stair with stringers hidden in the walls divides the ground floor into public areas (living room, dining room, and kitchen) and private spaces (bedroom/study and bath).

A narrow boardwalk surrounds the house, connecting it to the pool deck and providing access to the pool from all four sides.

Materials and colors

The architects' palette is neutral but offset by a few brightly colored volumes: the bedroom cube is a muted yellow, to accentuate its form, and the poolside wall is a soft, Barraganesque orange. Most materials are left natural, including gray cedar siding, maple floors, jute sisal bedroom rugs, French limestone living-room pavers, and one-ft-sq Vermont slate bathroom tiles.

While the forms seem simple, the design is compact and disciplined. To continue the treehouse theme, Hirsch added a small balcony to each of three sides of the house, making the bedrooms seem bigger and giving each its own private terrace. The glass facade has doors on both floors that slide open to increase air circulation. In order to have one generous shower on the second floor instead of two tiny ones, Hirsch built a large shower room that can be entered from bathrooms on either side. The shower has two sandblasted translucent glass doors with offset pivot hinges to allow for both access and privacy.

Apart from two molded plywood Eames lounge chairs and six New York City public school chairs in the dining room, all the furniture was designed for the space. Hirsch designed the maple dining table, which has eight small holes in the center that can accommodate candles or test-tube flower vases.

Hirsch's friend Drew Souza, a graphics and product designer, created a sofa with leather straps suspended, hammocklike, from its steel frame. Together, Hirsch, Souza, and Frostén designed the beds, coffee table, daybed, kitchen island, and cabinets.

Would Hirsch change anything? No, he says. "It came out as I envisioned it. But we thought it would be a renovation job, easier than doing something from scratch. In truth, it was a gut job." ■

Manufacturers' Sources
Skylights: *Velux-America, Inc.*
Exterior lights: *Stonco*
Living room ceiling lights: *Elliptipar*
Bathroom lights: *BEGA/US*





A bedroom (left) overlooks the living room. Extending the front of the house by two feet and the side by eight feet, the architects were able to carve out a two-story space for the living room (below).



2 Follows Residence Los Angeles, California

FERGUSON-ETTINGER ARCHITECTS ATTACHED A SERIES OF OUTDOOR ELEMENTS TO A BUNGALOW AFTER SECURING IT TO THE GROUND.

by Wendy Moonan

Project: *Follows Residence Los Angeles, California*
Architect: *Ferguson-Ettinger Architects—Pamela Ferguson, Brett Ettinger, principals*
Engineers: *B.W. Smith Structural Engineers (structural); Kurily Szymanski Tchirkow (structural); Parmelee-Schick and Associates (soils)*
General Contractor: *R.A.C. Construction*

Project Statistics
Size: *520 sq ft (addition), 1,644 sq ft (existing)*
Cost: *$78 per sq ft*
Design challenges: *Security concerns and a tight budget, much of which had to be spent on the concrete caissons.*

Manufacturers' Sources
Transparent oil finish: *Penofin-Performance Coatings*
Exterior lighting: *Guth, B.K.*
Connectors: *Simpson Strong-Tie Co.*
Cantilevered pots: *Deroma*

When the Northridge earthquake hit Los Angeles in 1993, it damaged not only a small 1910 Craftsman-style cottage in the Silverlake district but also the psyche of its owners, an actress and her husband, a film lighting technician. The couple weren't sure they wanted to live with their two children atop a seismic time bomb.

Neighborhood context

Not that they didn't love Silverlake, a middle-class area long favored by film people. "It first bloomed in the 1920s and 1930s as a residential neighborhood for the Hollywood crowd," explains their architect, Brett Ettinger of Ferguson-Ettinger Architects, a four-year-old, Santa Barbara–based team. In the 1940s and 1950s, Silverlake became the site of houses designed by Rudolf Schindler, Richard Neutra, John Lautner, Allyn E. Morris, and other mid-century architectural legends.

"After the earthquake, we had to convince our clients that we could design something that would make them feel safe both physically and psychologically before they would reinvest in the property," says Ettinger. "We decided we'd try to make something architectural out of something modest and vernacular."

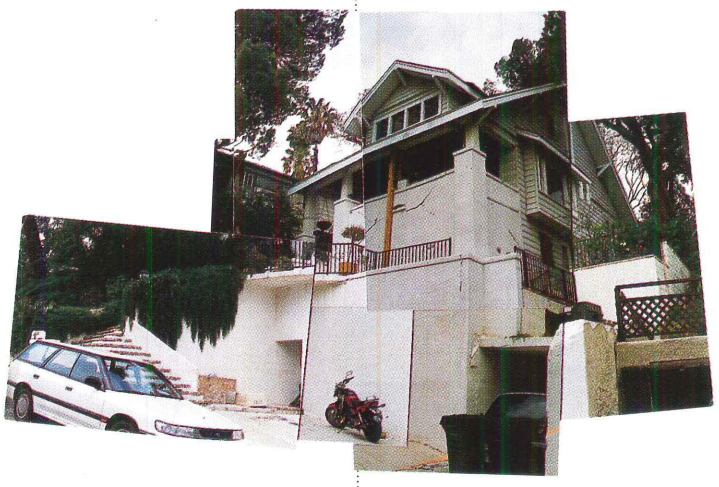
First, they secured the house by sinking three 30-ft concrete caissons into the rock to repin it. After $40,000 worth of concrete foundation work, "we decided to leave the rest of the house alone," says Ettinger's partner, Pamela Ferguson, who liked the original shiplap siding and bungalow charm. "We added appendages instead." A new 520-sq-ft redwood deck gives the dark, confined house some breathing space. "We wanted to take advantage of the California environment and make a place to sit outside."

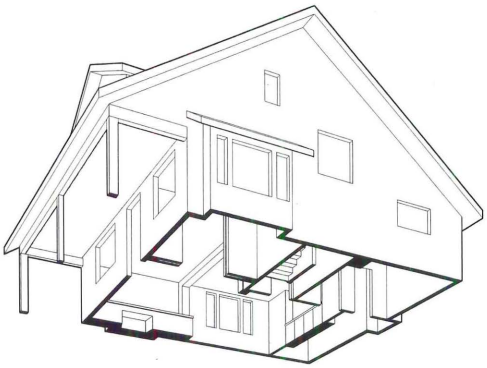
"The deck is like the prow of a ship," she explains. "From it the owners can see the Hollywood sign." The deck is supported by massive supports, 8-by-14-in. redwood beams, which are exposed to show their size and strength.

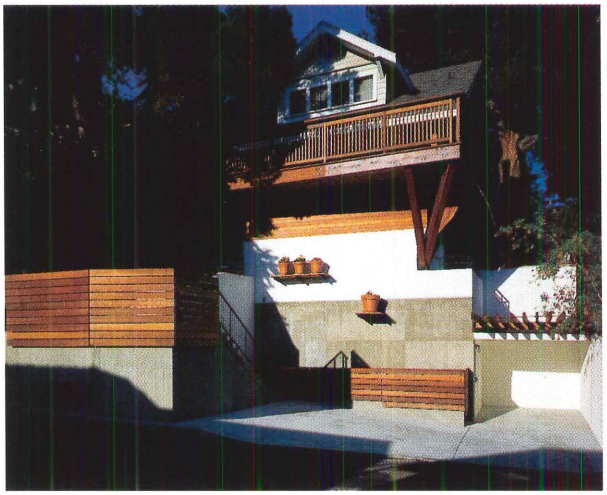
Defensible design

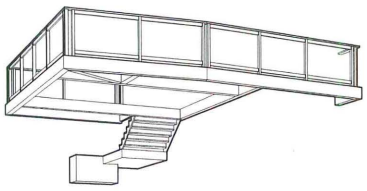
The 1,644-sq-ft house is only two blocks from the site of the recent L.A. riots. "Our strategy was to make it a refuge off the street," Ettinger says. The steep facade between the street and house is now a collage. "We wanted to break down the scale of the vertical wall," Ferguson says, "so we put the horizontal landing in the steps. Then we reoriented the stairs so they wouldn't be open to the street. It gives you a feeling of safety; there is no open invitation to climb the stairs."

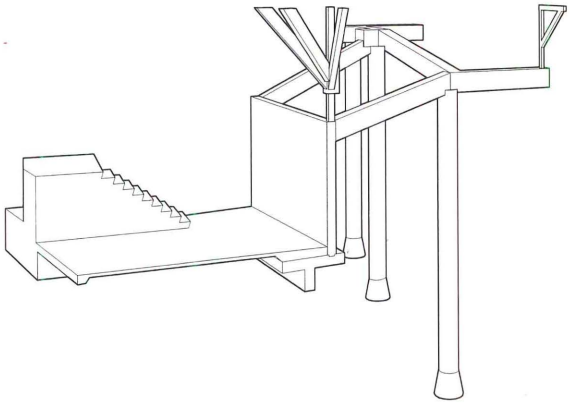
"From the floorline of the house down to the bottom of the stairs is almost a building in itself," Ettinger adds. "We wanted the house to be gritty at the ground level, so we used blackened steel-rails, redwood boards, graffiti-proof cement, and white stucco." The result is a place that feels secure—against both human and seismic intrusions—without looking like a fortress. ■

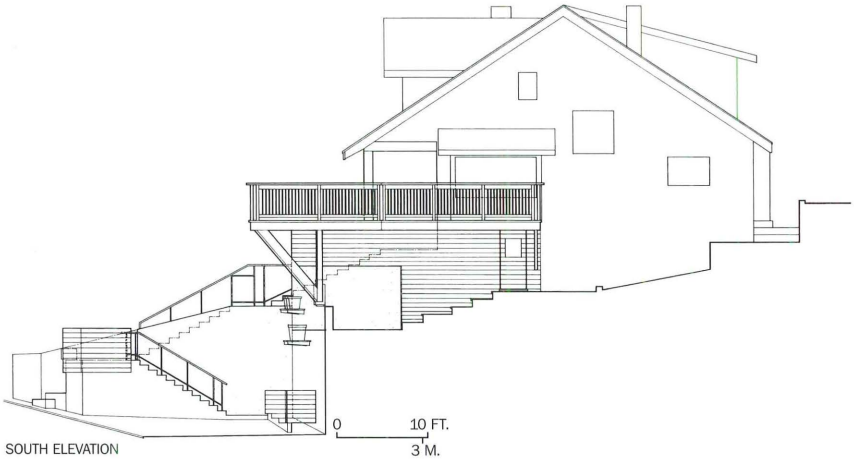






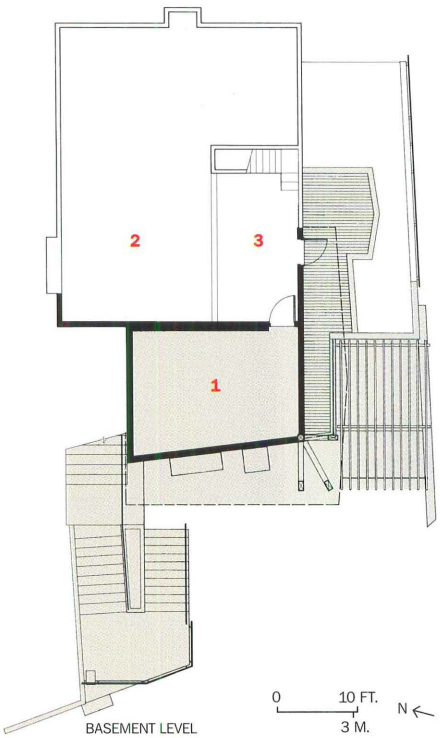




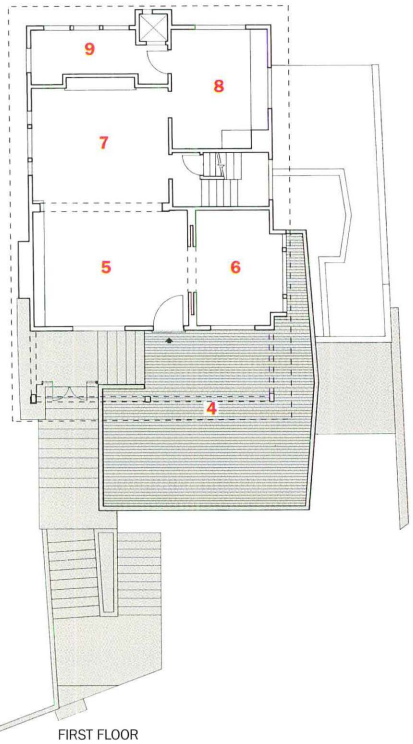


SOUTH ELEVATION

1. *Storage*
2. *Crawl space*
3. *Basement*
4. *Deck*
5. *Living*
6. *Den*
7. *Dining*
8. *Kitchen*
9. *Bath*



BASEMENT LEVEL



FIRST FLOOR

Concrete caissons were used to repin the house to its steep hillside (axonometric drawing, above) after it was damaged in the 1993 earthquake (opposite). A deck and small insertions create a new entry sequence.

3 Hobgood House Charlotte, North Carolina

USING NEW MATERIALS BUT INSPIRED BY OLD FORMS, KENNETH HOBGOOD RENOVATED AND ADDED TO A STATELY OLD HOME.

by Ken Friedlein

Project: *Hobgood House Charlotte, North Carolina*
Architect: *Kenneth E. Hobgood, Architect—Kenneth E. Hobgood, AIA, project designer; Mark Reyer, Chadwick Robertson, Roger Cannon, Alan Bolzan, design team*
Engineer: *Morrison and Sullivan (structural)*
Consultants: *Jay Smith (landscape); Shepherd Electric Co—Robert Jordan (lighting)*
General Contractor: *Dorset Construction*

Project Statistics
Size: *880 sq ft (new), 3,950 sq ft (renovated)*
Cost: *$792,000 ($164 per sq ft)*
Design challenges: *Zoning setbacks, relating the new addition to an old house while using a Modern design vocabulary, and accommodating a multifaceted program.*

Steel and glass is a language hardly spoken in Myers Park, a tranquil, oak-shaded neighborhood in Charlotte, North Carolina, where the houses tend to be stately versions of one period style or another. So when architect Kenneth Hobgood, AIA, added a white metallic pavilion onto the back of a hip-roofed, stucco house here, he was introducing a foreign element. Part of an extensive remodeling project, the addition establishes its identity by contrasting the old with something unmistakably new.

Located on a prominent corner, the property had been little changed since it was built in 1914. But in 1993, Hobgood's brother, Thomas, a custom furniture maker, bought the house and acted on a long-held wish. "I've always wanted to have Kenneth design something for me," Thomas Hobgood says, recalling that he summoned his brother to Charlotte as the purchase of the house was pending. "Can you do something with it?" he asked.

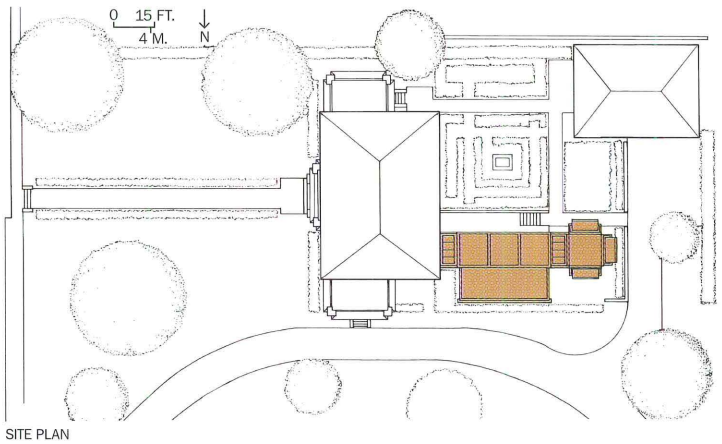
Old elements inspire the new

A deteriorating masonry-and-timber pergola off the rear of the house and the remains of an adjacent formal garden served as the genesis for the new scheme—to replace the pergola and its repetitive framing with a raised pavilion and create a topiary garden in the yard.

Designing the new pavilion by merely replicating the pergola form, though, would not have provided enough space to accommodate all of the functions envisioned for the addition—an up-to-date kitchen, a sitting area, and a breakfast room.

Hobgood's solution was to configure the kitchen as a galley contained in a supplemental, solid volume along the exposed street side of the addition. That left the sitting room open on the garden side while providing privacy from the street. The form came from repeating 11-ft-4-in. steel-frame cubes, three of which combine to make the sitting area. At the end, the breakfast room continues the line of cubes beyond the protection of the adjacent kitchen, making a glassy





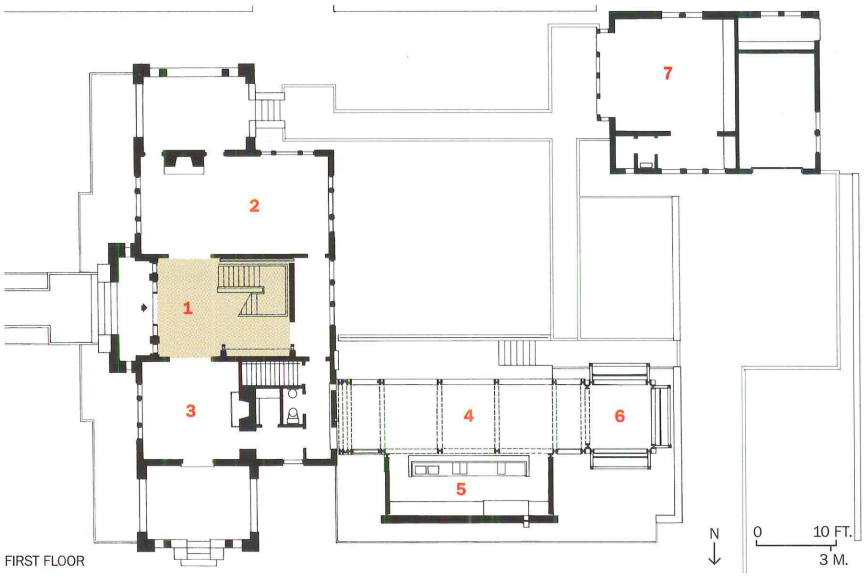
SITE PLAN

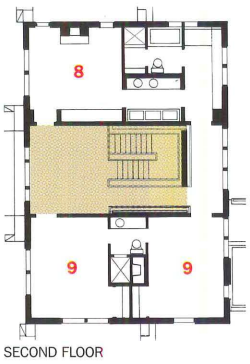
Ken Friedlein is a journalist and intern architect with Dixon Weinstein Architects in Chapel Hill, North Carolina.



The 880-sq-ft addition looks onto a new garden that is still maturing (left). The breakfast room at the end of the addition (below) enjoys views on three sides, while the new kitchen on the north side has a solid wall that provides privacy from the nearby street. The steel framing of the addition recalls the repetitive form of a masonry-and-timber pergola that was once on the site.



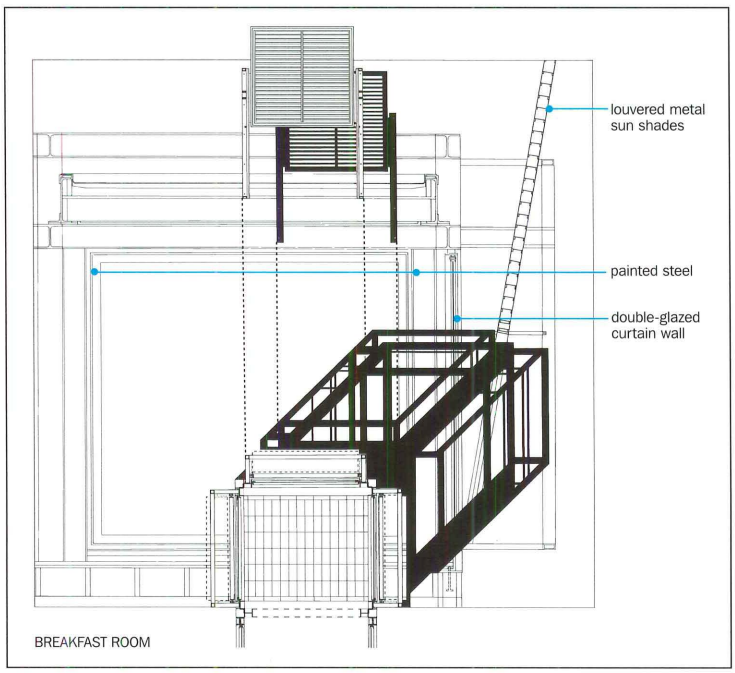




1. *Stair hall*
2. *Living*
3. *Dining*
4. *Sitting*
5. *Kitchen*
6. *Breakfast*
7. *Guest*
8. *Master bedroom*
9. *Bedroom*

A new stair hall with 20-ft-high maple-paneled walls enlivens the old house (opposite top left). A new kitchen and sitting room are in the addition (opposite top right and bottom).





room open to the garden and street on all three of its exterior exposures. Mechanical louvered screens riding in angled, exterior tracks can be lowered to provide varying degrees of privacy, or raised to allow full views. In any position, they provide high-tech punctuation marking the end of the extension.

Renovating the existing house

The project also involved a thorough renovation of the existing house—leaving the front with its original arched, centered entry and twin flanking porches, but redoing the stucco finish, replacing windows and floors throughout the interior, and updating major spaces such as the master bedroom and bath. Part of the detached two-car garage was converted to guest quarters.

To open up the front of the house, Hobgood removed the existing cramped stairs and created an airy stair hall. Though less evident to passersby, the stair hall is as significant an installation inside as the garden pavilion is outside.

Bringing the language of the steel-and-glass pavilion indoors, the architect designed the staircase as a steel construction with open risers and a carefully detailed metal railing. "We wanted something inside the house to tie back to the addition," says Hobgood.

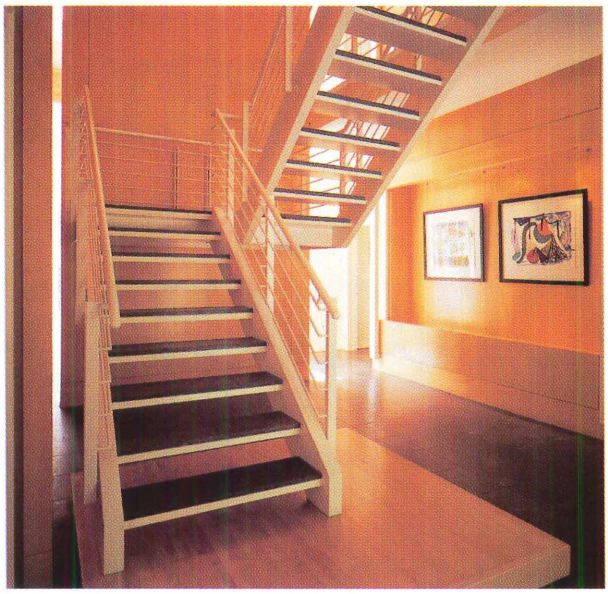
That the new construction would evolve as a sharply contrasting piece rather than a continuation or evolution of the existing house was not surprising, given the architect's preference for clean, Modernist solutions. Formerly a senior designer for O'Brien/Atkins Architects, Hobgood formed his own firm in 1993 with O'Brien/Atkins colleague Roger Cannon. (Cannon has since left and opened his own firm.)

Respectful approach

Hobgood acknowledges that "some people may take it as a jarring addition" but says his approach sprang from a respectful attitude. "The house had that nice front elevation and those porches. It was complete, really, and to try to add to it in that style wouldn't do. We wanted to add something simple that made the house and the addition two different things, so they would talk to each other."

One of the challenges that the addition had to overcome was the thermal swings associated with exposed glassy volumes. The owner says the combination of passive shading devices and beefed-up air handling has achieved comfortable heating and cooling levels. ■

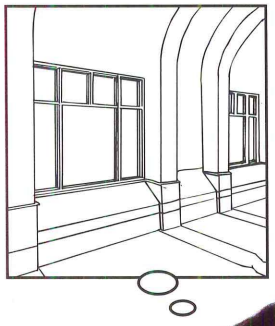
Manufacturers' Sources
Steel frame: *North Carolina Steel*
Steel window wall: *Hope's Architectural Products Inc.*
MR16 downlights: *Reggiani; Halo*
Exterior wall lamps: *BEGA/US*

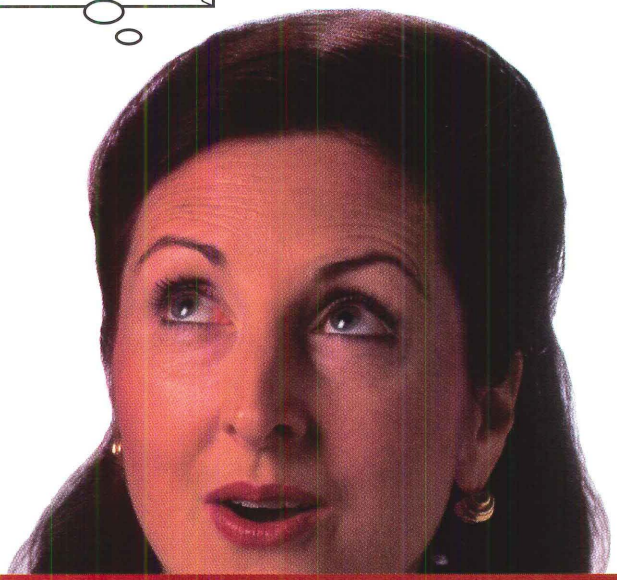


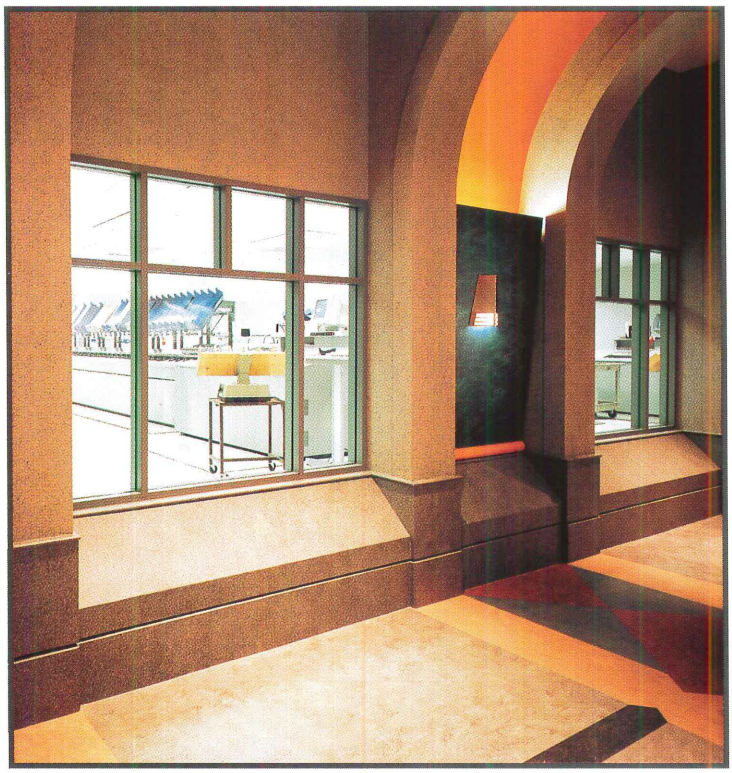



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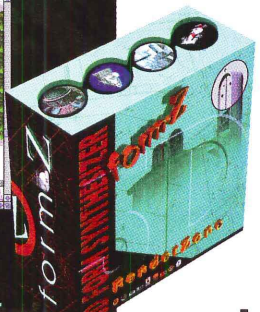
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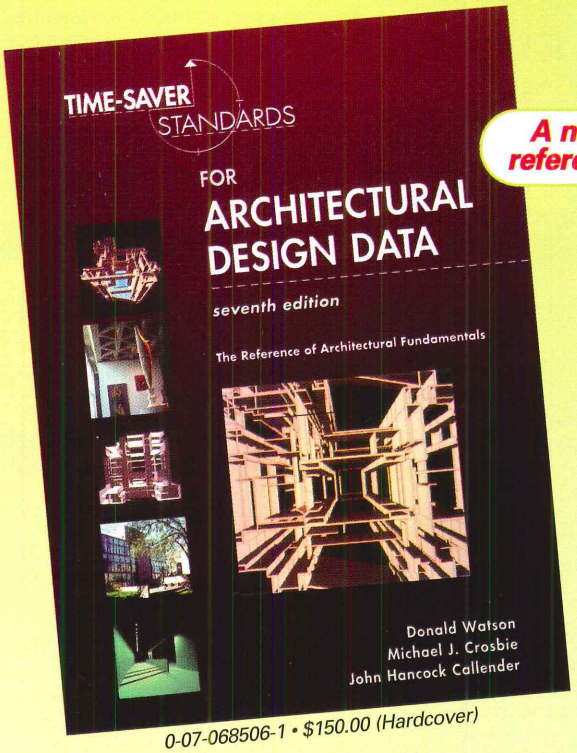
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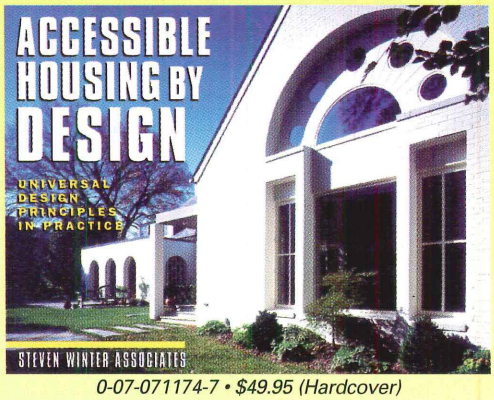
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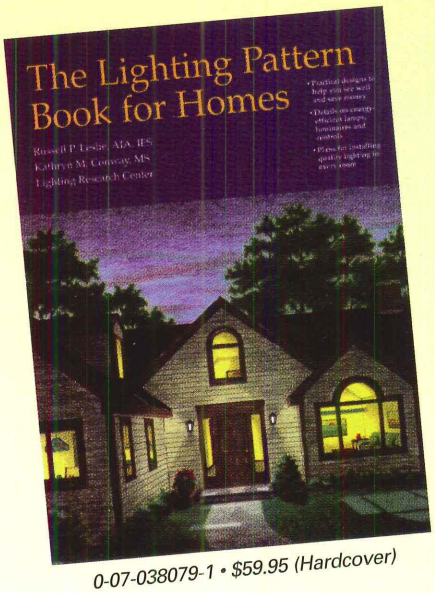
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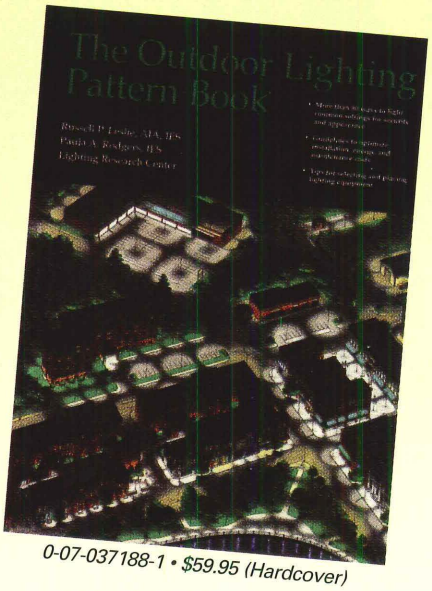
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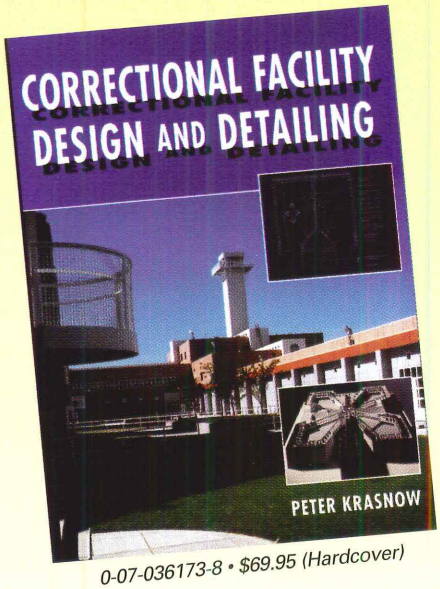
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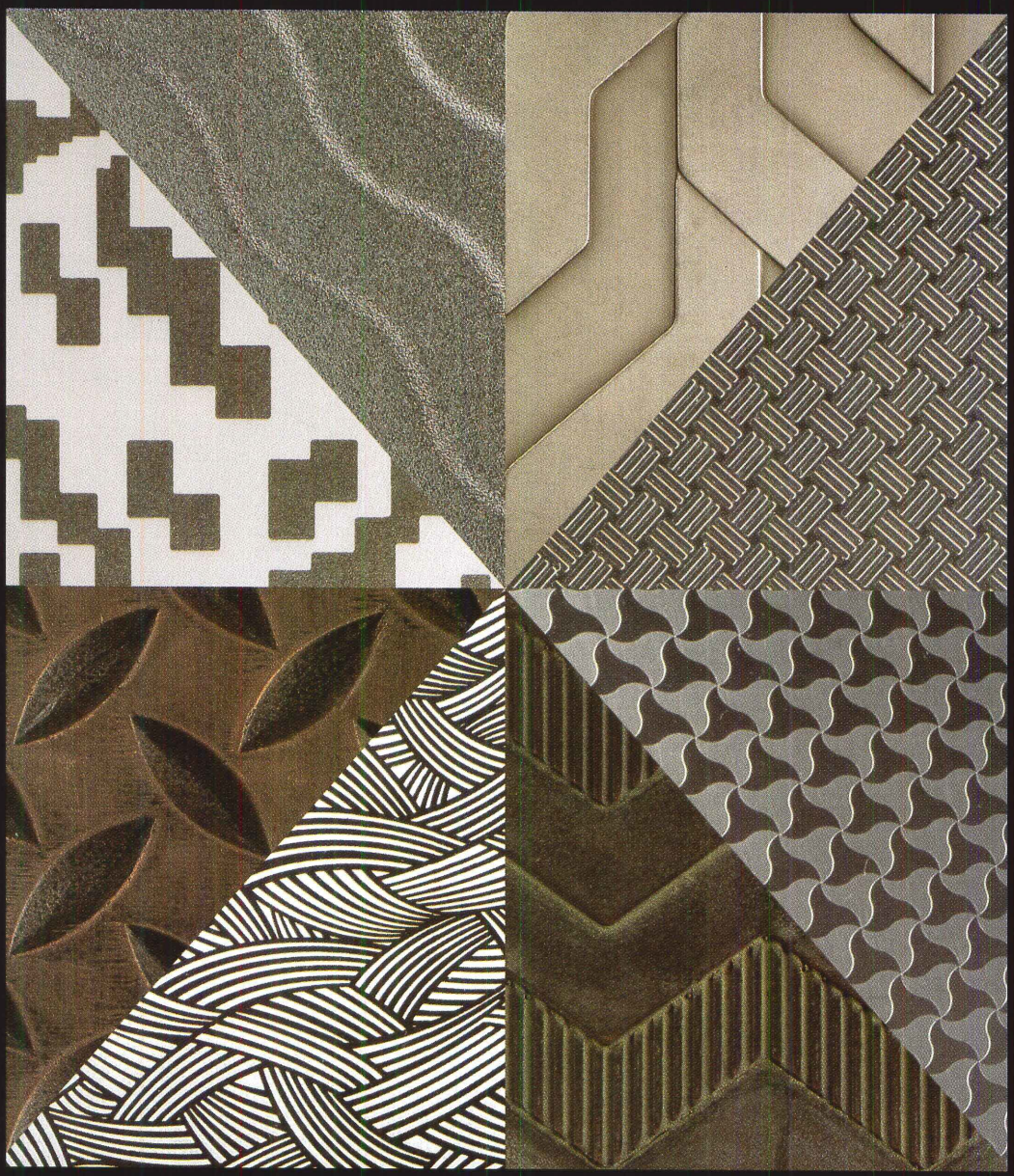
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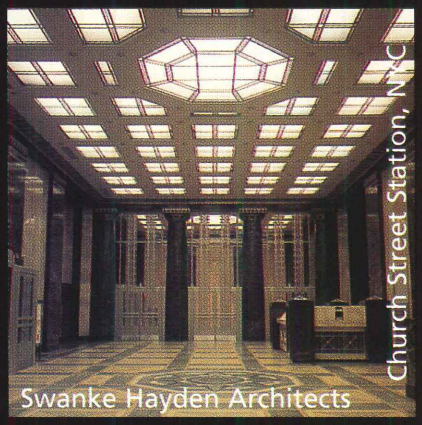


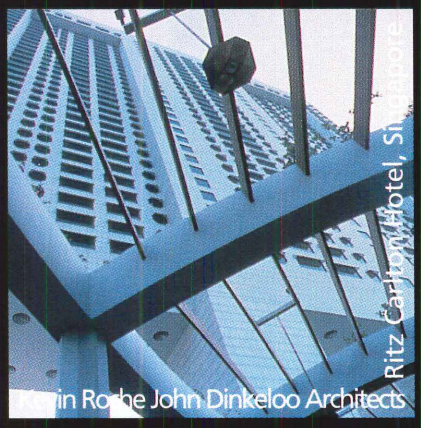










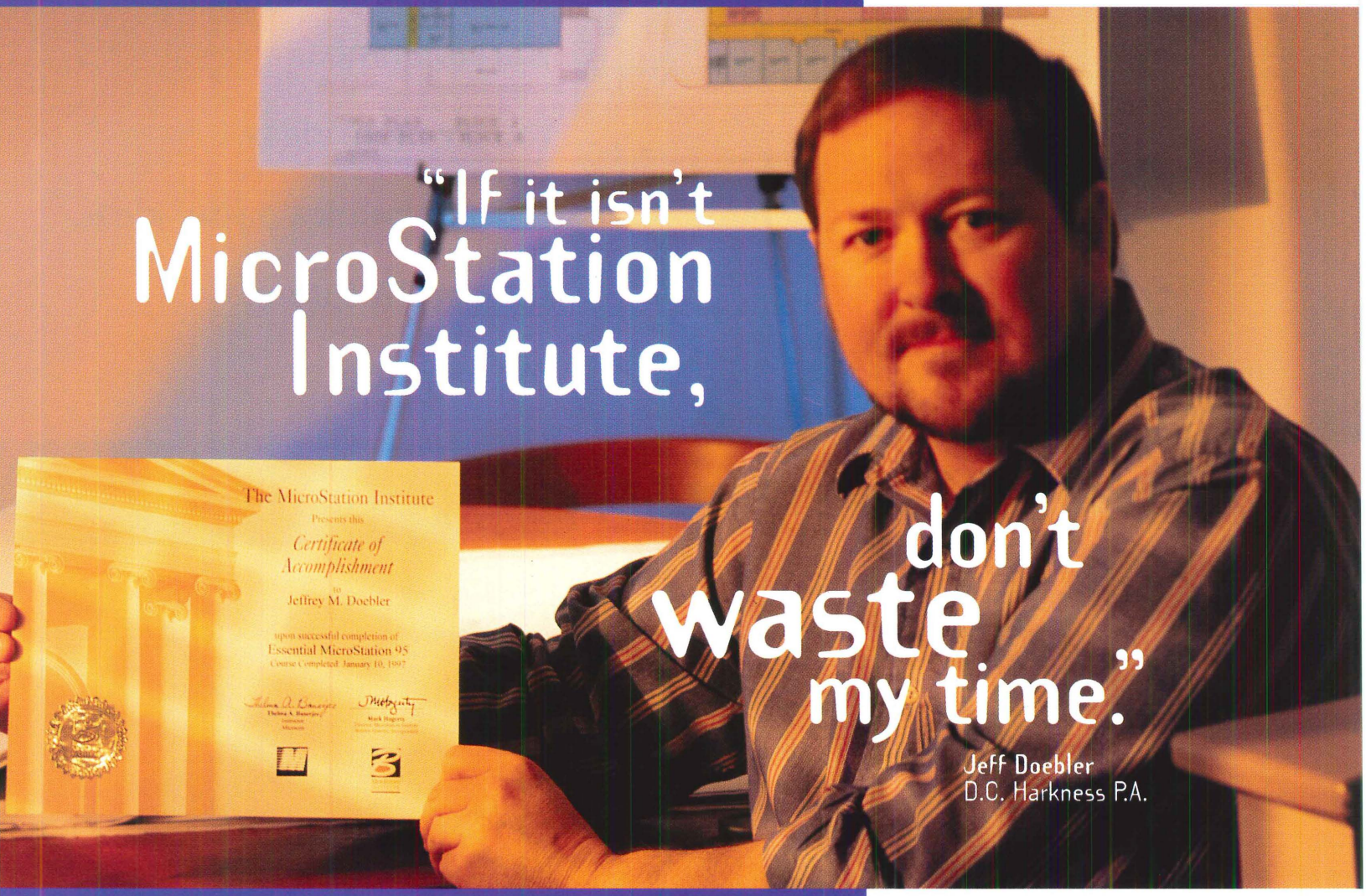






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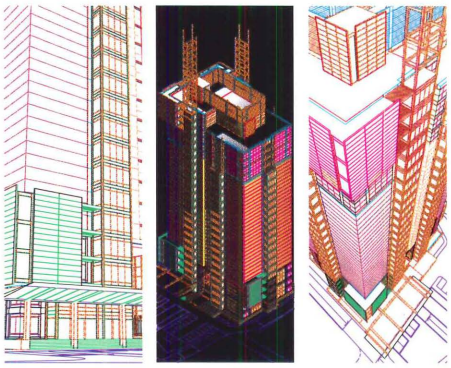
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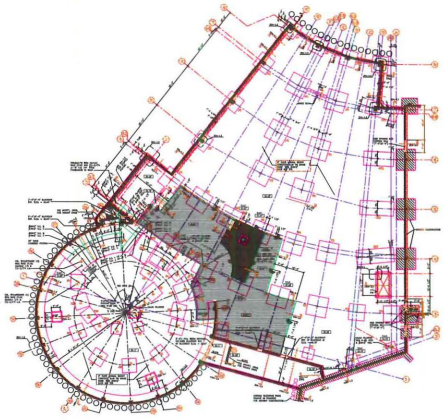


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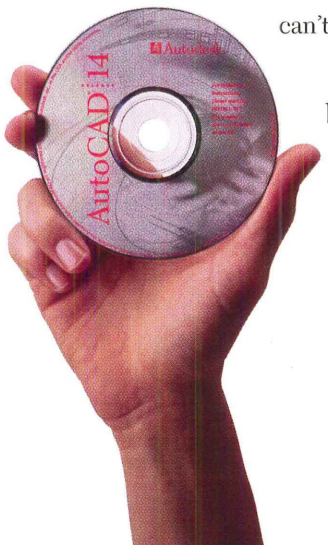


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The Architecture of Cyberspace

SEVERAL ARCHITECTS ARE CHANGING THE LOOK OF THE WORLD WIDE WEB, AND CREATING METHODS THAT OPEN NEW OPPORTUNITIES FOR THE FUTURE OF PRACTICE.

by B. J. Novitski

No sooner had architects discovered that the graphically appealing World Wide Web was of limited value for marketing purposes, than practitioners and university researchers began exploring ways to make it useful in more practical ways. The Web is not simply a medium for viewing pretty pictures; it is becoming a serious tool for collaboration between design professionals, their clients, and builders.

Traditional design processes cannot always be transferred wholesale into new media, however. Computer technology makes it easy to accumulate vast amounts of information, so new methods for managing and retrieving it must be invented. Technologies that support collaboration between designers who live in different hemispheres and/or who do not know one another can sometimes emphasize cross-cultural misunderstandings that would not be an issue in traditional business. So, as they seek ways to utilize new media, technological explorers are also devising methods to solve the new problems they encounter.

Web-based design and construction data

NBBJ, the large Seattle architecture firm, has been working with digital technology for years to present project visualizations to clients. Now, with the convergence of the Internet and interactive three-dimensional software, they are exploring ways to extend this capability. For the Seattle-based Virginia Mason Research Center, for example, NBBJ has set up a private Web site that will enable clients and subcontractors to "tour" the proposed building. The clients will study functional and experiential aspects of the space, while the fabricators will retrieve dimensional data about building components.

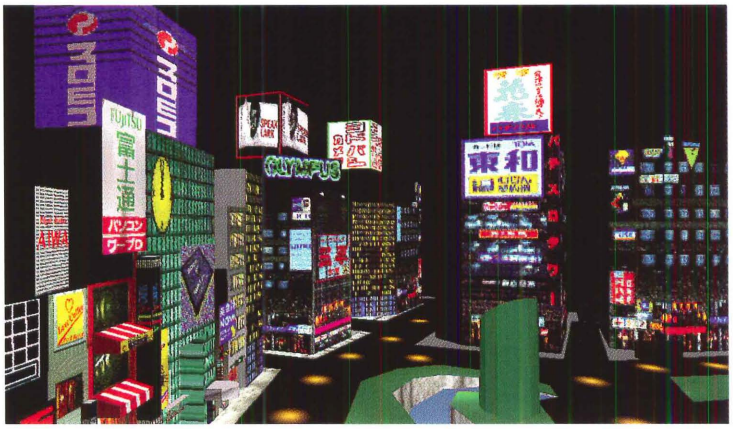
B. J. Novitski is a freelance writer specializing in architectural technology, practice, and education. She can be reached at bjn@efn.org.

Continuing Education *This month's installment of the ARCHITECTURAL RECORD/AIA Continuing Education Series focuses on electronic design collaboration. Use the following learning objectives to focus your study. After reading the article, complete the questions (page 190) and check your answers (page 192). AIA members may fill out the self-report form in this issue (page 192) and send it in for two AIA Learning Units.*

—Mark Scher, AIA Director Professional Education Products and Services

Learning Objectives *After reading this article, you should be able to:*

1. *Explain at least three challenges and opportunities offered by electronic technologies for diverse and long-distance design projects.*
2. *List two ideas about the electronic design process and project information management that can contribute to project success.*
3. *Contrast the utility of videoconferencing and E-mail as international communication vehicles.*



Elements of Planet 9's Virtual-TOKYO offer clickable Web links.

The client group for this project is itself very sophisticated technically. The staff scientists have high-powered workstations for "walking through" molecular structures in their own research. Thus, they have both the necessary equipment and an appreciation of the importance of visualization. NBBJ staff designer Dace Campbell (dcampbell@nbbj.com), who has worked on several virtual-reality projects at the University of Washington, has been developing the Virginia Mason Web site to study the function and construction of staircases in the research facility. He rendered a three-dimensional model with the highly realistic Lightscape software to give the clients a clearer picture of what it would be like to navigate the stair and surrounding lobby.

When the clients first toured the digital space, Amy Baker, an NBBJ interior designer, was on hand with material samples to give the colors in the image a greater sense of realism. (The best communications often occur through the proper balance of modern and traditional media.) As the project develops, the clients will be able to "tour" updates on the Web from their own offices by invoking the model built in Virtual Reality Modeling Language (VRML).

Arguably more important than the design visualization is the role the Web site will play in communicating construction information to the subcontractor who will ultimately fabricate the stair. Project principal Richard Dallam (rdallam@nbbj.com) believes that concentrating technology on the construction-documents phase could bring about the greatest benefits in quality along with more savings in cost and time. If the fabricator can get precise dimensional data directly from the model and bypass all the conventional intermediary steps in shop-drawing reviews, the chances of error are fewer. Virginia Mason often negotiates contracts in order for the contractor to get on board early, so the architects can design details around the systems the builders like to use.

Thus, working directly with the subcontractor results in fewer

problems and tends to limit rather than jeopardize the architect's liability. Furthermore, because the model is accessible from the Internet, Dallam has more choice when selecting fabricators. He can look to other states, where labor costs are lower, because he does not need to meet the builder face to face to explain design details. Architect and fabricator can discuss a project by telephone while touring the same 3D model on the Web. Dallam expects the Virginia Mason staircase design and documentation to be virtually paperless.

In other projects, he and Campbell have experimented with using a 3D Web-based model as an interface to a collection of 2D drawings. Sectional slices are preset within the model; the user clicks on a section marker to call up the pertinent plan or section.

One challenge they foresee is in making this Web site appropriate for different user groups. While clients will be more interested in the Lightscape-rendered models, the contractors will have a greater need for clear and precise construction documents.

Another challenge emerges from the opportunity to collaborate with clients from other cultures. Dallam cites a recent example with an Asian client group, which had a stronger sense of hierarchy than a comparable Western group might have. Because the group's most senior member was unwilling to interact directly with the walkthrough model, the junior members were reluctant to try it. So the interactive version of the design proposals went unseen. Though he does not claim to have solved the problems yet, Dallam says, "Learning how to deal with differences in cultural conventions will be absolutely key to making these technologies effective."

Managing an ocean of information

Another major challenge facing architects and engineers who use the Web as a medium for collaboration is management of the huge quantities of material they generate. Any design process produces a formidable amount of sketches, photographs, drawings, memos, schedules, calculations, and so on. These elements can be stored more effectively in an electronic format, but the amount of information is no less voluminous. Tracking all this material and making it easily retrievable is crucial if designers are going to make the technology efficient.

This problem and others in the area of collaborative design have been the focus of engineer and Stanford professor Renate Fruchter. For several years, she and her colleagues have been developing software and design methods that will enable multidisciplinary, geographically distributed design teams to work on a shared design model and use the Web for collaboration and communication. Fruchter has established, for example, a change-notification system that alerts each team member to any design changes by others that might have some consequences on the member's own work. She has her engineering students—who work in teams with architecture students at the University of California, Berkeley—set up a project Web site divided into shared and private workspaces. Whenever a student wants to present a drawing, for example, to the larger team, he or she establishes a link from the public space to the new drawing. With a system of passwords and permissions, different members of the team have access to different kinds of data. Fruchter notes: "The whole workspace becomes like a living organism that grows with the project."

Fruchter and her students use the Internet and Web tools as the

VISITS TO VIRTUAL CITIES

A new specialty service gives technology-savvy architects a field of practice that was unheard of 10 years ago. Architects David Colleen, of Planet 9, San Francisco, and Mike Rosen, of Mike Rosen and Associates, Architects, Philadelphia, have committed their firms to the modeling of cities. They create 3D models of buildings, streets, and other structures, and render them realistically with "textures" taken from digitized photographs of the real buildings. With fast enough hardware, Web users can "navigate" through one of these models and experience the city as if they were actually walking, driving, or flying through it.

Colleen and his colleagues have modeled approximately 15 cities, including Austin, San Francisco, Tokyo, New York, and San Diego, which can be found on the firm's Web site at <http://www.planet9.com/>. To begin a project, Colleen sends a staff photographer to take up to 2,000 photographs of the city. Back home, the staff creates simple massing models, onto which the photographic imagery is applied. They work with the Virtual Reality Modeling Language (VRML) so that models on the Web may be navigated by any user with the proper VRML plug-in. Colleen's staff adds detail incrementally as it becomes available. Often, city planning departments will contribute data in exchange for free use of the resulting database.

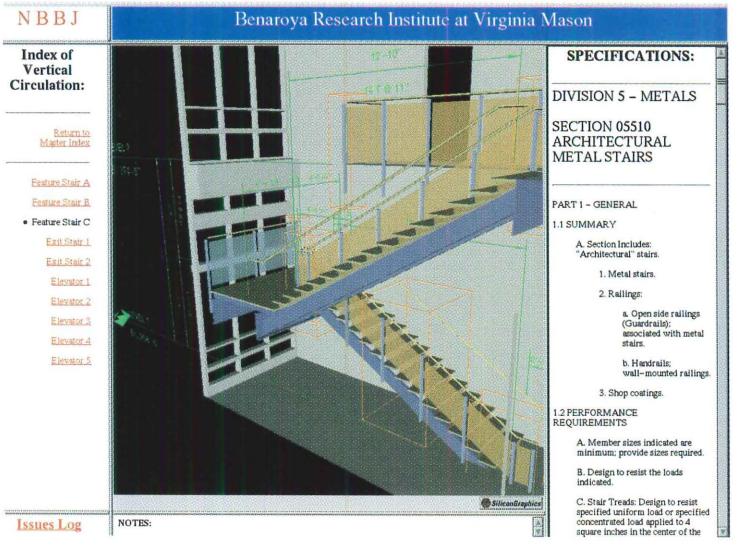


A 3D, Internet-based model of Philadelphia is now under development. The navigable model will contain realistic cityscapes as well as the city's precisely mapped engineering infrastructure.

Architecture firms may license a model and insert their own proposed building for design and sightline studies, for example. The model of San Francisco is so complete and precise that it is accepted by local authorities for use in environmental impact reports. The models are also licensed by tourism promoters as an interface to information for visitors. For example, Mardi Gras Productions uses the VRML model of New Orleans to provide data on local attractions. A visitor can navigate through the city, click on a restaurant, and call up that restaurant's Web page, which might include hours, menus, and so on. Some city models are being used as an index for real-estate listings. Facilities departments of some large companies are using them to manage leasing and space planning.

ModelCity Philadelphia takes the concept one step further. Besides the visible built environment, the model includes the city's hidden, engineered infrastructure. Built by Bentley Systems with their new ModelServer Publisher software, the navigable model is also a link to a massive yet integrated database of street trees, other landscape elements, and overhead and underground utilities. Architects will not only be able to place proposed buildings in the site for client and public evaluation, they and their consultants will have access to the city's entire infrastructure. Laypeople will be able to tour the city on the Internet in preparation, for example, for a real visit to Philadelphia. The Web site's location is <http://www.bentley.com/modelcity/>.

Mike Rosen is now leading the ongoing development of the model, which is expected to be unveiled at the AIA conference in Philadelphia in 2000. *B.J.N.*



Seattle's NBBJ is experimenting with 3D design and construction documents on an extranet. Clients and contractors can view the design of a stair in a Lightscape-rendered image (below). Another model view associates specifications data (left); clicking on individual stair elements brings up further information (right).



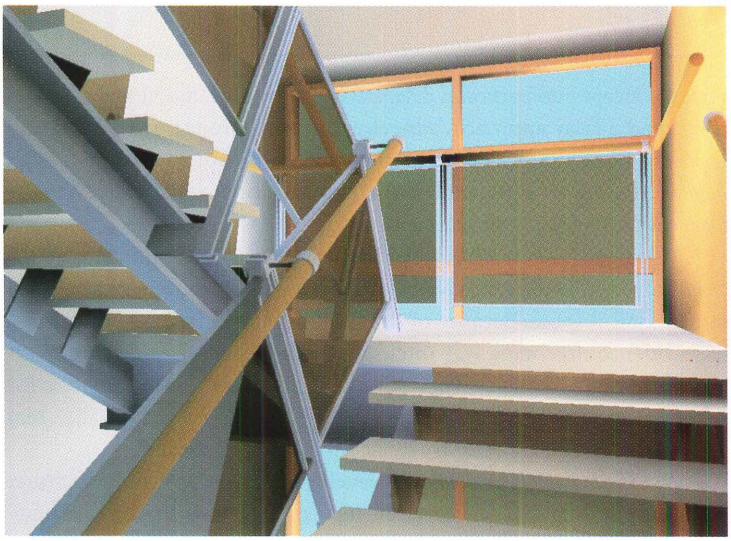
indexing system to keep track of all the drawings, data, change notifications, E-mail correspondences, and so on. They have programmed scripts that launch AutoCAD within the Web browser, so a user can move seamlessly from perusing the database to working on a drawing. In a recent project, a VRML model was the central organizing mechanism for finding information. The user was able to click on a picture hanging in a "virtual gallery" and get transferred to a Web page corresponding to that icon. As an upcoming feature, clicking on a structural member will bring up a page of related structural calculations. And, of course, users can navigate the VRML model to evaluate the space visually.

An important reason for maintaining and saving this vast amount of design information is that it will be useful during construction and afterward for facilities management purposes. But how to retrieve pertinent data for particular uses? Fruchter has developed a system for creating what she calls a "cyberarchive." A user can pose a query to the system for information selected by discipline, level of detail, and phase of design. The result of the query is not only a collection of the requested data; it is an automatically created, customized Web site assembling all this data. Even users who don't know how to set up Web pages can instantly create a site that is specific to their interests. Fruchter says: "It's like having a secretary. You can ask for 'all the information on architectural details' and the system will collect it, wherever it is." Fruchter says she hopes the software needed to make all this work will eventually be made available to the public. For more information, see her course Web site at <http://www leland.stanford.edu/group/CIFE/ce222/index.htm> or send E-mail to fruchter@ce.stanford.edu.

Design collaborations

For the past several years, professors, students, and researchers at the Massachusetts Institute of Technology (MIT) have been grappling with the technical and social issues of collaborative design. Led by the School of Architecture's dean, William Mitchell, MIT's Design Studio of the Future has been conducting design projects with schools all over the world. This interdisciplinary studio, run in conjunction with MIT's School of Engineering and found at <http://alberti.mit.edu/dsof/>, is supported by a state-of-the-art collection of computing and videoconferencing equipment. More importantly, the studio has become an international "aggregate of expertise," working to understand and solve the challenges of electronically supported collaboration.

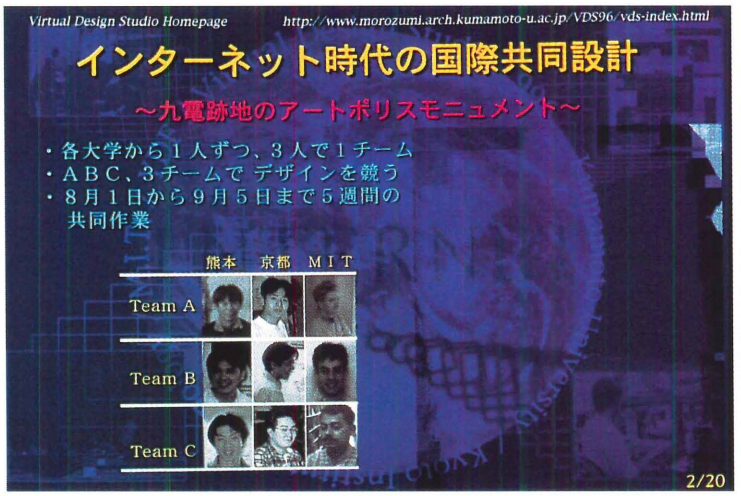
In the summer of 1996, three MIT graduate students teamed up



with six Japanese architecture students, three each from Kumamoto University and the Kyoto Institute of Technology. They divided into three teams, with one individual from each school represented on a team, to work on a structure for the Kumamoto ArtPolis '96 International Architectural Exhibition. A primary goal of the project was to explore the nature of communications between design partners separated by space, time, language, and culture. Each team established a Web site for posting images, drawings, text, and other digital data. They also shared ideas through videoconferencing; at prescheduled times they would hold conversations where they could see and get to know each other while discussing design ideas. Spoken-language difficulties eventually made this form of communication less common than typed E-mail. The students also shared ideas through sketches on electronic whiteboards. All these technologies were used during the final review presented to distinguished jurors from both the U.S. and Japan.

The teams were asked to designate specific roles for each participant: a Web master to maintain the team's Web page, a minutes taker to record discussions, and a schedule coordinator to determine meeting times. "Although these roles seemed time-consuming and mundane," says Mitchell, "they were important in establishing a common understanding of the development of the design as well as in the making of a coherent presentation to critics." From there, the teams diverged in process, each developing its own modes of communication. One team divided the





At MIT's Design Studio of the Future, students prepare Web sites to share ideas (right) and hold videoconference review sessions (left).

design concept into parts and delegated a part to each individual. Another team used a relay approach, whereby the entire project was passed successively from one member to the next. Ultimate success in design depended more on a student team's consensus about which process to use than on the particular process chosen.

The students discovered frustrations in communicating electronically that would not have been an issue if they were working in the same physical space. Because of the great difference in time zones, real-time videoconferencing was often not available. They came to rely far more on E-mail messages. They quickly realized they needed a system for acknowledging whether a message had been received, a formality that would not have been necessary in face-to-face discussions.

Over time, the students developed their own studio culture. To overcome linguistic differences, for example, and the lack of body language in text-based communications, the students developed sets of keywords that were abstractions of the more subtle and complex design ideas that emerged from the project. Terms like "rural reflections," "crickets," "beacon," and "whirlwind" became an invented shorthand to designate larger design concepts. The social bond reinforced by this understood vocabulary contributed to the success of the design teams.

Mitchell expects that the higher bandwidth and computing power that will be available in the future will greatly increase the interest of architects in this type of collaboration. "We'll see an 'internationalization' of design practice," he predicts, "a context in which services can be exported with increasing ease. It will become very common for geographically distributed design teams to work together." In anticipation of that day, his goal is to give his students the practical, hands-on experience of working in an environment that explores technical and social issues.

Beyond the building

Other issues about the future of the profession are the focus of architect and visionary Peter Anders. He and his students at the New Jersey Institute of Technology and, more recently, at the University of Michigan have been studying the existing appearance of cyberspace and the potential for turning it into a design service opportunity for professionals. In RECORD's October 1996 issue [pages 48–51], he discussed the multi-user domains first found in on-line games as primitive precursors to graphically richer, architect-designed Web-based "spaces" we can look forward to working with in the future.

Imaginary spaces form powerful images in our minds, he argues, citing the "memory palaces" used by orators to memorize and recall long passages of text before books were common. Each "room" in their mental palace brought forth the memorized material. The strong connection between mind, memory, and architectural imagery can be exploited by those who design the "structure" of the increasingly vast amount of information we'll need to deal with in the future. And who better to do this work than those trained in architectural design?

Now that tools for designing three-dimensional Web sites are readily available, Anders claims, any architect can be doing this kind of design work today. For example, any new building could include an accompanying database designed to organize the client's corporate or institutional information. Anders calls these auxiliary designs "cybrids": they have no physical manifestation, yet they may visually resemble the actual building. From home, telecommuters could navigate a cybrid to find their filing cabinet at work; geographically remote consultants could "meet" in a conference room without having to travel to the same city.

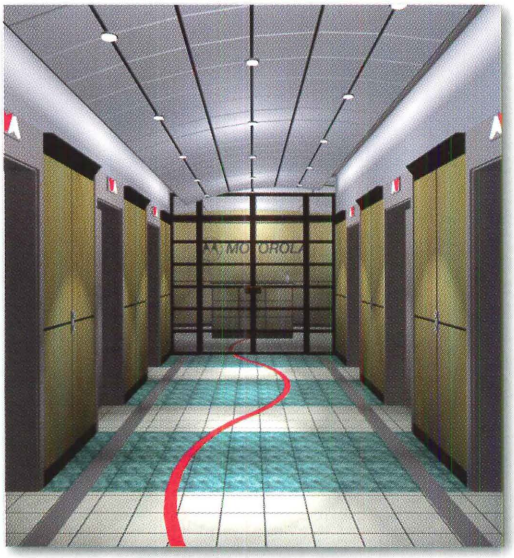
HIGHER BANDWIDTH WILL FURTHER INTERNATIONALIZE PRACTICE.

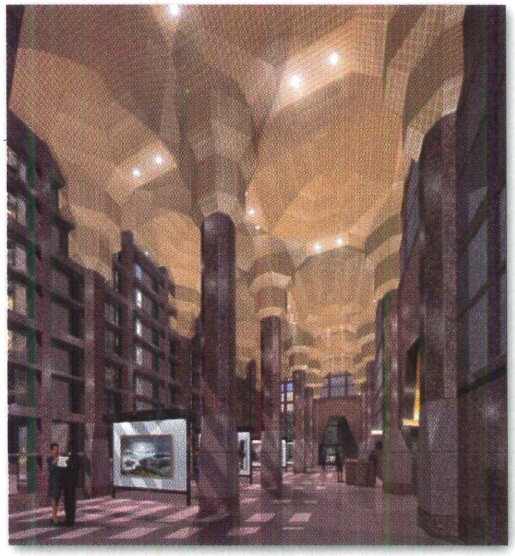
"It's a way of achieving 'green architecture,'" Anders says, "a building with the least impact on the land. If a client knows they can supplant a lot of their buildings' functions with a cybrid equivalent, this becomes pretty important economically." And by mimicking the imagery of the real building, architects can draw on the power of memory palaces to help users find and remember the information they need. "This goes way beyond architecture as something that just keeps the weather out," Anders concludes. "We're learning that architectural space is a medium and it's the way we relate to a lot of complex information."

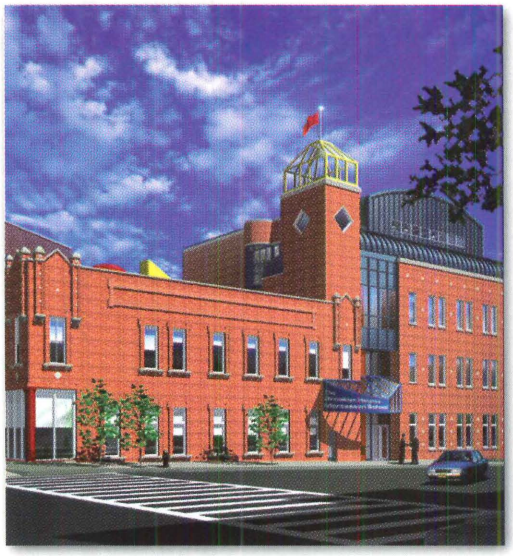
So far there are few practitioners actively designing the architecture of cyberspace. But like the Web itself, their number will quickly grow. It's an uncharted path, and architectural explorers are anticipating some of the pitfalls. As a result, the rest may be able to travel more safely and look for the tremendous opportunities available in expanded services and improved design. ■

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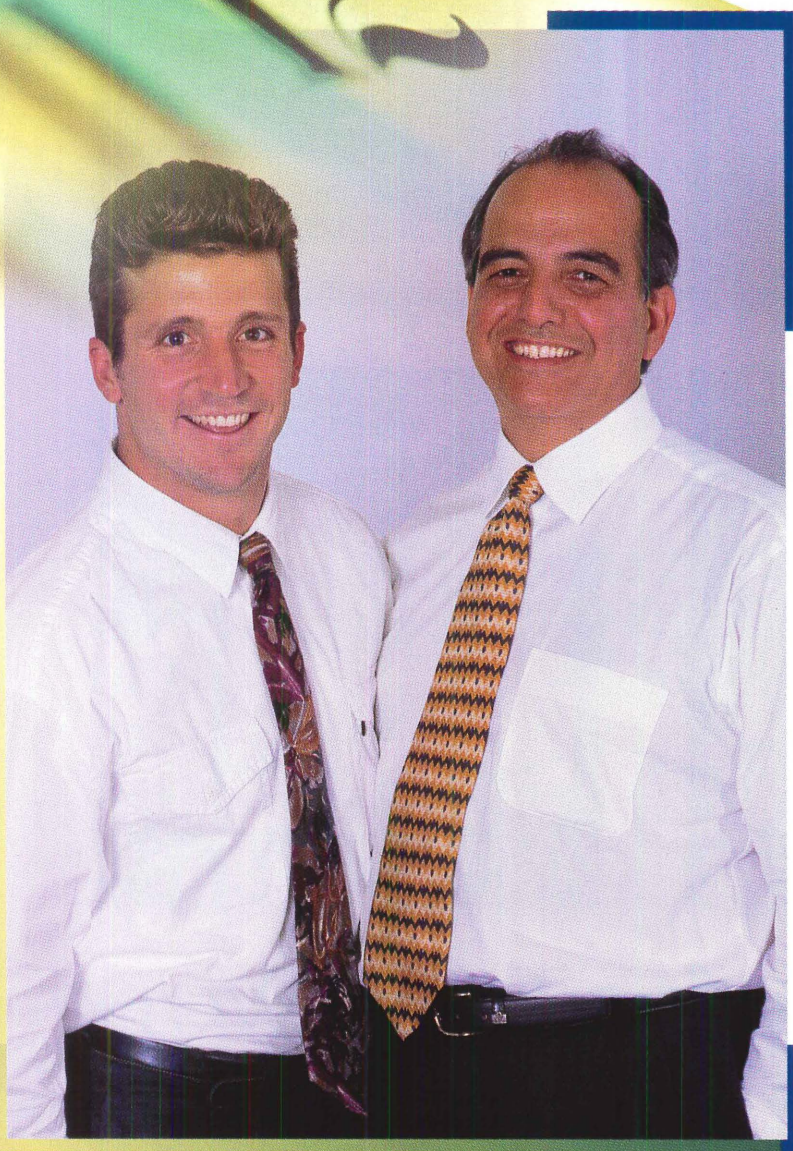
CIRCLE 54 ON INQUIRY CARD

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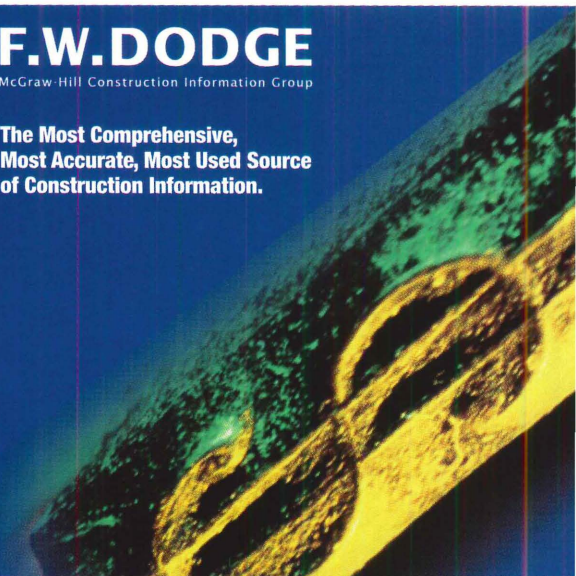
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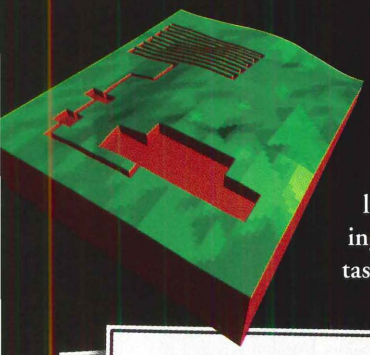
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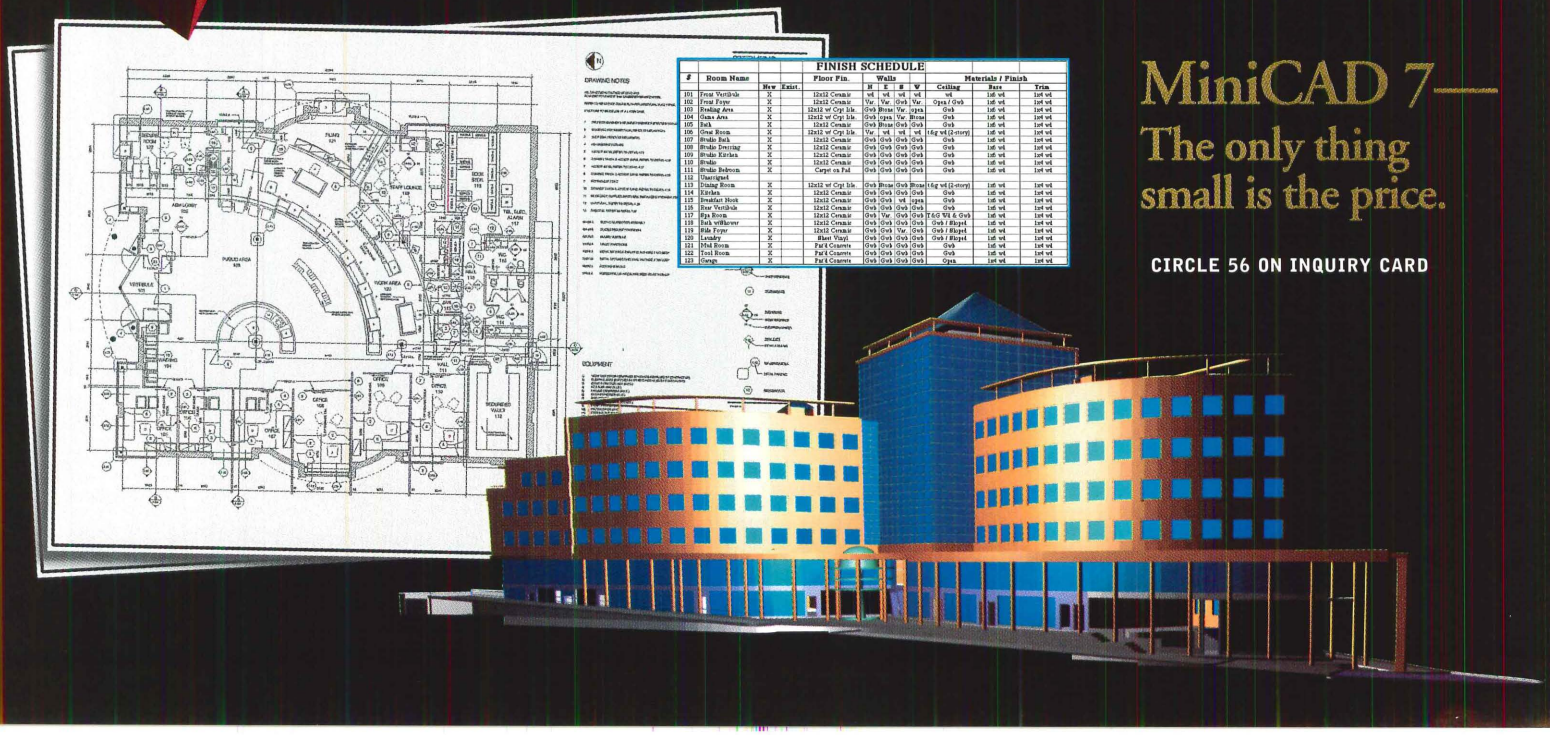
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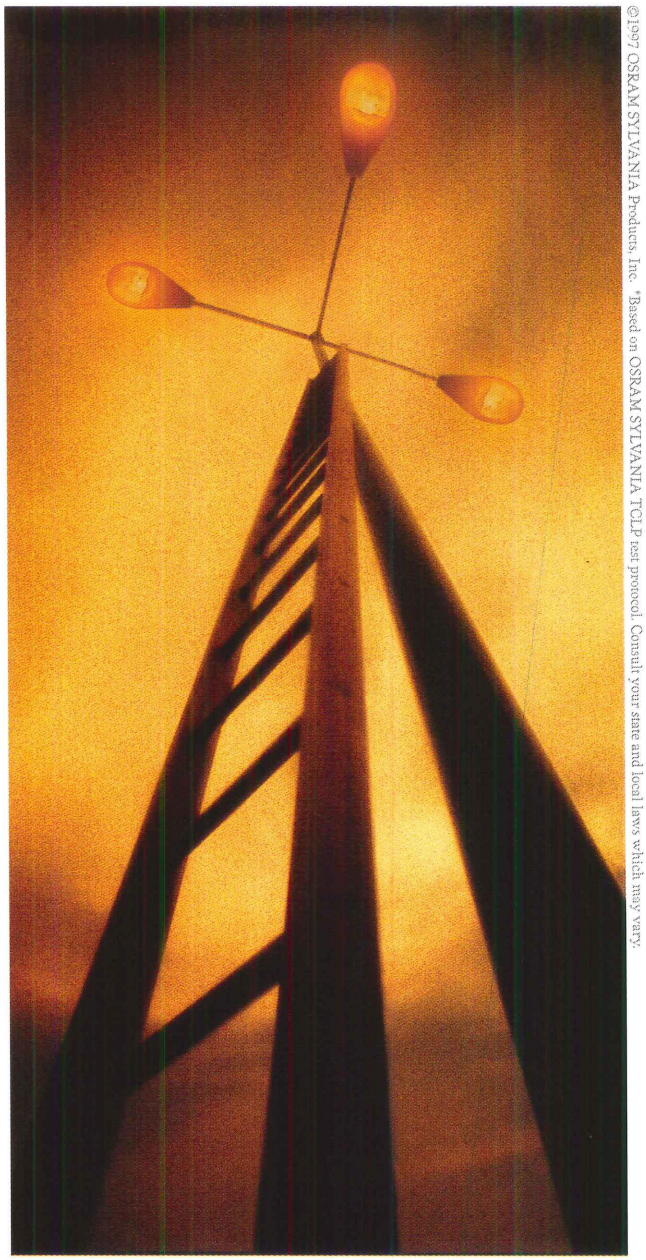
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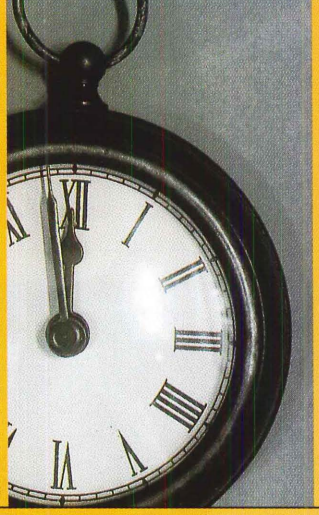
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CIRCLE 57 ON INQUIRY CARD



LIGHTING...

The latest buzz in the lighting industry is about all the research being done to prove that productivity can be improved by providing workers with illumination that is glare-free, not too bright, and user-adjustable. Ergonomically correct furniture and acoustical dampening are also helpful. There is no question that I would be happier in an office with these amenities.

But the idea that someone would put me in such an environment with the expectation that I would become more productive makes me very uneasy, not because I'm unproductive but because I'm not sure the research applies to me. Suppose my output were measured by something quantifiable, say the number of keystrokes I make in a day. I type almost as many backspaces as I do letters and spaces, so I'm already half as productive as I would appear to be. And, if I recognize more quickly that I'm writing misspelled words that make no sense, then replacing them with new words faster, have I become more productive?

What if at the end of each day I filled out a survey in which I assessed how I felt about my productivity? This might be more appropriate for me than counting keystrokes, considering that here at the magazine, coming up with ideas and expressing them well is valued more highly than how fast people type. But there's the rub: I do agree that productivity can be measured either by counting how well or fast people do certain things, or by documenting feelings of well-being caused by an environment. But how can I measure the quality of my ideas?

Everyone has their own way of conjuring up the muse. Let's say mine is to procrastinate as long as possible and go into action at the last moment. In a productivity survey, it would look like I'm doing zip most of the time. That would tend to make me grade myself down on a subjective survey most days—a depressing proposition. But in the eleventh hour, when I've been threatened within an inch of my miserable life if I don't produce, and my adrenaline is pumped and my blood pressure is sky high, I always seem to be blessed with my best ideas. Some people get their boosts from cola drinks, others from sunshine. Some people couldn't get a good idea if it came to them in the mail. My point is, productivity measures would seem to have their limitations.

That doesn't mean a good environment couldn't make me more creative. Oddly enough, architects have provided me with the worst working environments I've had in my whole career. That's probably where I started procrastinating in the first place, which led me to Linn's Law. It states: Bad lighting, poor ventilation, back pain from ergonomically incorrect seating, and extraneous noise all decrease in direct proportion with the proximity to the deadline. Ergo, when under extreme pressure to complete an important task, for limited amounts of time the brain is able to screen out pain, odors, noise, and visual distractions, and will do whatever it takes to capture the muse.

Can great lighting in office environments improve productivity? I'm convinced. Creativity? I hope so. But right now I've gotta go. I'm late for the ophthalmologist, and the printer needs this page in five minutes.—Charles Linn, AIA

148 Lighting Observations

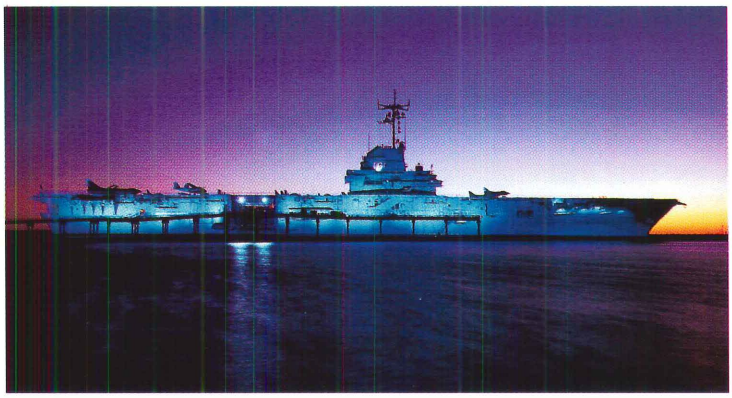
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CREATIVE USES



THE RETURN OF THE U.S.S. BLUE GHOST

Tokyo Rose first called the U.S.S. Lexington, an Essex-class aircraft carrier, the Blue Ghost during one of her famed World War II radio broadcasts. The Lexington earned its nickname because on four occasions Japanese forces reported with great fanfare that they had sunk the "great blue ship," only to have it reappear in subsequent battles.

When it was finally decommissioned in 1991, the Lexington was moved to Corpus Christi, Texas, and placed in the harbor there for use as a museum. The ship was anchored parallel to a pier that is about 50 ft away and accessed by means of a gangway.

As a community project, the local utility company, Central Power and Light, and an electrical distributor, American Light, furnished fixtures and lamps to illuminate the aircraft carrier at night.

Forty "sports lighters," fixtures commonly banked together at the tops of poles for stadium lighting, were installed along the edge of the pier. These were aimed horizontally toward the hull and bridge of the 910-ft-long ship. A number of other metal-halide fixtures were placed on outriggers to light the bow of the Lexington.

For the first three years of operation, the lighting system was lamped with 1000W white metal-halide lamps. Then, David Thomas, of American Light, saw a sample of a new 1000W blue metal-halide lamp at a trade show.

This lamp produces blue light chemically, by blending different elements in the lamp's arc tube, rather than by coating the lamp with dye or placing gels over the fixtures. Producing the colored light inside the lamp's tube is more energy-efficient than producing it with a filter, since using a filter means that other portions of the visible spectrum are produced by the lamp and then absorbed by the filter, requiring more lamps to light an object.

When samples of the lamp, which is also being used in new architectural applications, were installed in the existing fixtures, they were enthusiastically received. "Two weeks later," says Richard Hormuth, of American Lighting, "we got the blue lamps in, relamped the fixtures, and the job was done."

The new lamps debuted during a reunion of the Blue Ghost Association, a group of former crew members of the Lexington. According to Jerry Chipman, the director of the Lexington Museum, "The members were extremely pleased. The new lights give the Blue Ghost a very eerie appearance, even from five miles away, especially when there is a little fog on the water." ■

UNITING A CHURCH ENTRY WITH LIGHT

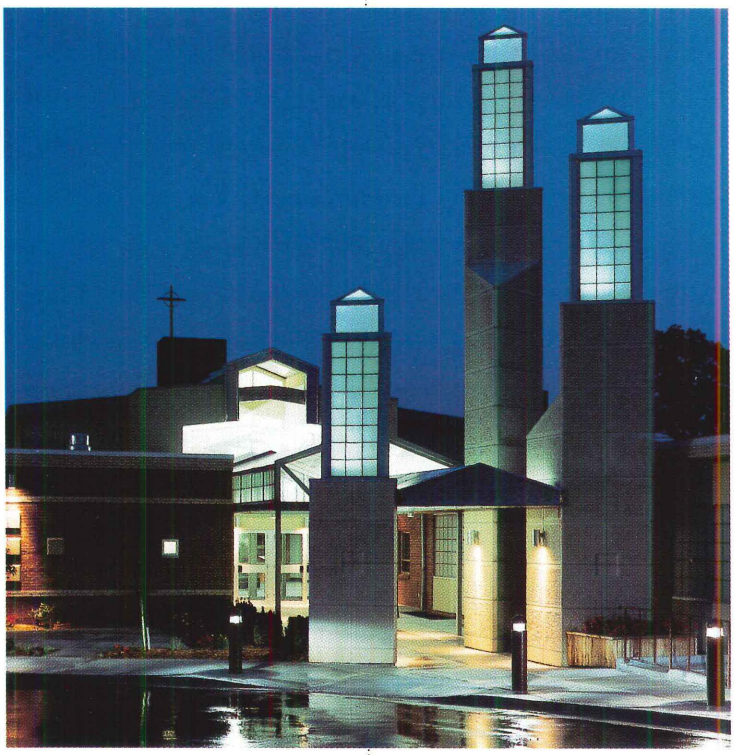
Trinity Lutheran Church, of Shawnee Mission, Kansas, having experienced tremendous growth in its membership over the years, had decided to remodel.

"We find that a consistent problem with churches built in the 1950s and 1960s," says architect Tom Devine, of Devine deFlon Yaeger Architects of Kansas City, Missouri, "is that they have a number of entrances." This church had four entrances, and it was confusing to decipher which was the main entry. The architects' first chore was to try to make all the circulation uniform and to identify a real, proper entrance. "We wanted an entrance that could be seen from an automobile approaching from a few blocks away," says Devine. "You start the procession into the church from your car, driving into the parking lot, walking through the parking lot, under the canopies, and into the main gathering space."

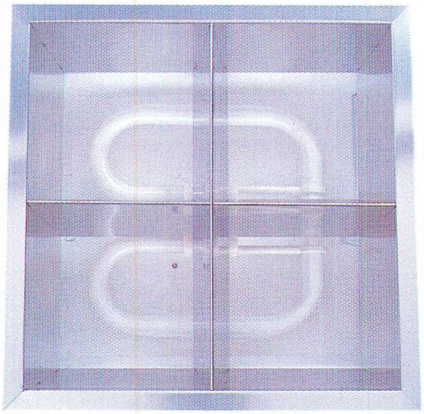
A row of bollards illuminated by metal-halide lamps leads night visitors to the new church entry. The entrance is marked by three towers of varying heights, which represent the Trinity. The base of the spires is made of concrete panels and grazed with warm-colored downlight from PAR30 spots in cans hung from wall brackets. The upper half of the spires is made of translucent fiberglass panels lit internally by 70W metal-halide fixtures placed on two platforms. "We didn't use just a single fixture, because we wanted the light to be even from top to bottom," says Devine.

The spires support a pair of canopies made of translucent fiberglass panels. These are uplit on each side by a row of tubular T8 fluorescent fixtures; additional PAR30 cans light the sidewalk. The fluorescent tubes also glow through the fiberglass panels onto the spires.

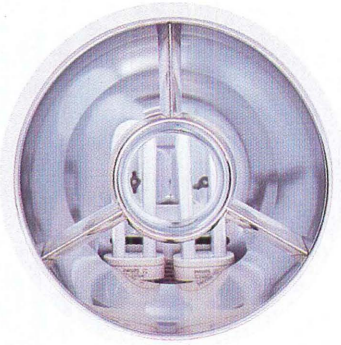
Two design themes established by the new entrance are carried inside to the congregation's renovated gathering room: the shallow, gabled profile of the canopies establishes the pitch of the multilevel ceiling; and, like the canopies, the ceiling is indirectly lit. ■



PHOTOGRAPHY: COURTESY VENTURE LIGHTING (LEFT); © ARCHITECTURAL FOTOGRAPHICS (RIGHT)

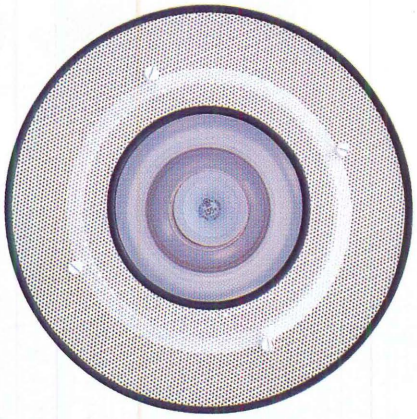


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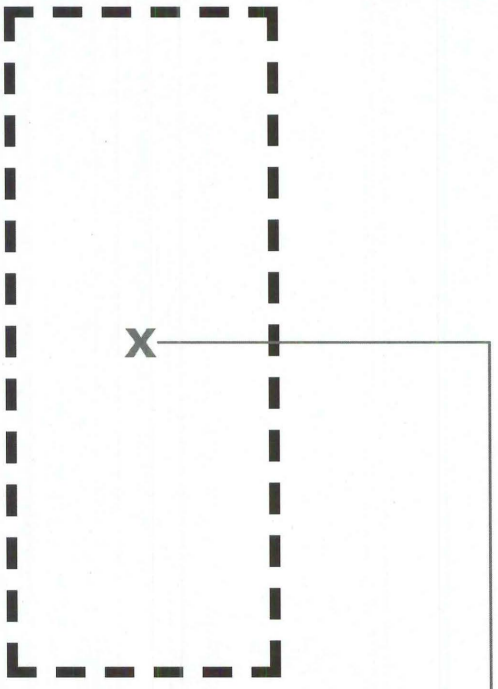


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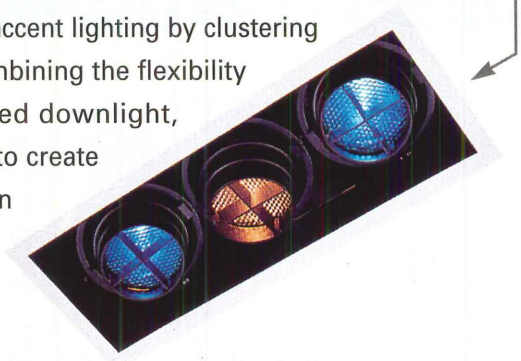


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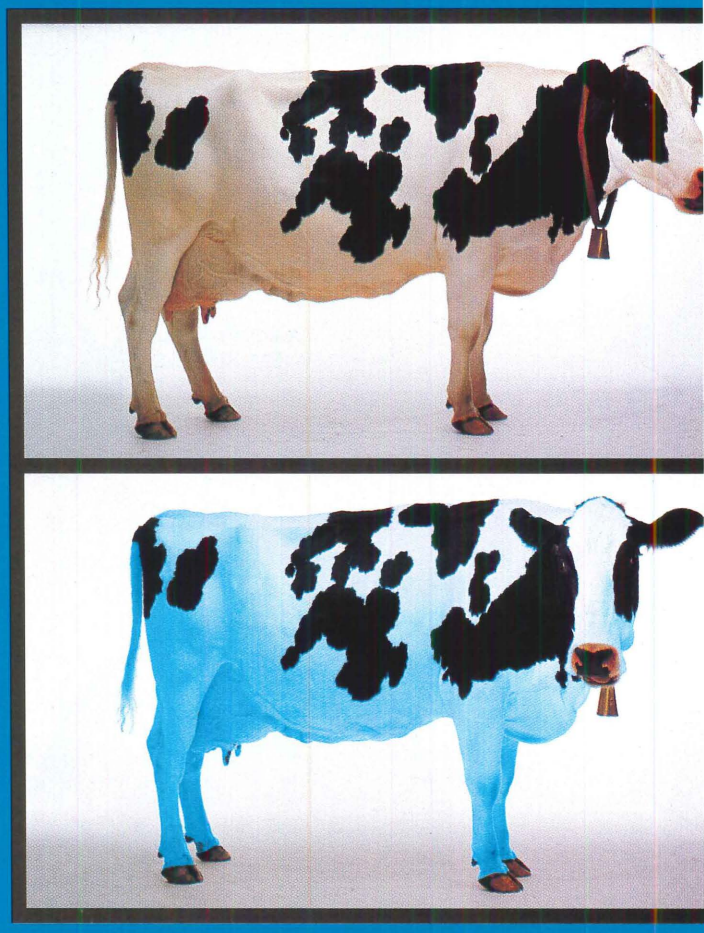


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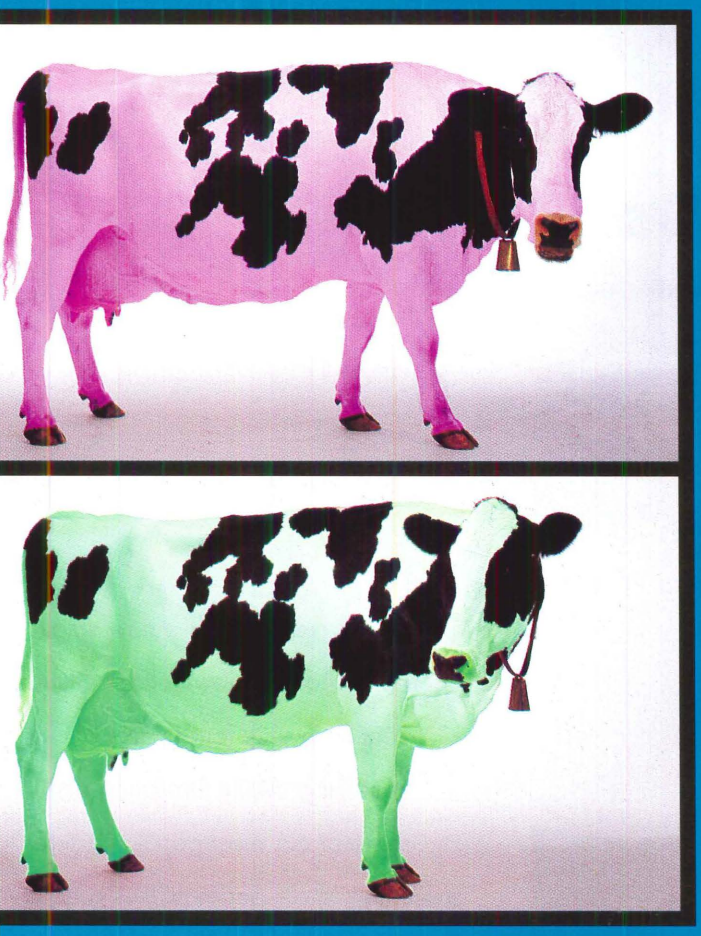
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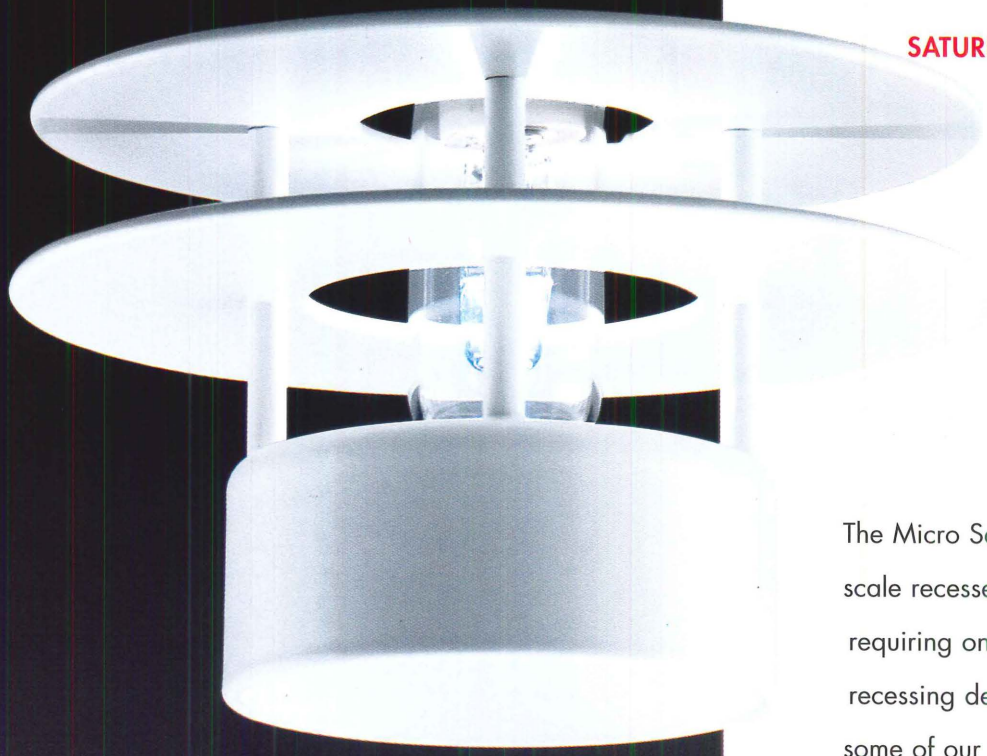
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CIRCLE 60 ON INQUIRY C

Parasailing Fishes Take Aqualuminescence Below Sea Level

by Gareth Fenley

To enter the Flying Fish Café is to enter a fantasy within a dream world. The restaurant is in the prime position on the village green at the first mixed-use development at Disney World, called BoardWalk, designed by Robert A.M. Stern, FAIA. BoardWalk conjures up the atmosphere of Coney Island 40 or 50 years ago. The famed Brooklyn amusement parks inspired architect Marty Dorf in his choice of the restaurant's primary themes.

"Coney Island was incredibly eccentric," Dorf says. "It celebrated the spirit of excess in our humanity. It titillated and scared you and made you so happy you never wanted to leave." Blended with the evocation of Coney Island is the restaurant's emblem, the flying fish. "It's an image that embodies energy, joy, and fantasy. Yet the restaurant appears fairly sophisticated, not cartoonish. It has serious, understated elegance even though it's kind of funny."

The exterior of the Flying Fish is decorated in neon, with animated fish that appear to flap their wings. The entry is more subtle and mysterious. Just inside the front door, the lighting and surface materials create the impression that you are entering an underwater environment, with lights mounted above cobalt-blue glass and shimmering on a silvery textured wall.

Inside the restaurant, sculptured fishes play overhead. The main apparent light source is a series of custom-made indirect luminaires that feature fishes and a parachute, inspired by Coney Island's Parachute Jump attraction. Dorf initiated the concept, which was implemented by lighting consultant Bill Schwinghammer, of Johnson Schwinghammer. "We placed a double-ended 200W halogen lamp in the tube that uplights the parachute, which is made of poured and molded fiberglass resin," Schwinghammer says. "It gives a glow of yellowish white incandescent light when dimmed down."



Neon fish flap their wings like an old Coney Island attraction, beckoning diners to sample the café's delights.

The main source of ambient light comes from slots housing AR111 low-voltage lamps with black honeycomb louvers. The AR111 has an aluminum reflector and is 111 mm in diameter. "It's a very controlled light source, a European version of the PAR36," says Schwinghammer. "I like to use it because of the control it provides. I used a light pink filter on the lamp here, to cut the whiteness and make it more flattering to people at the tables."

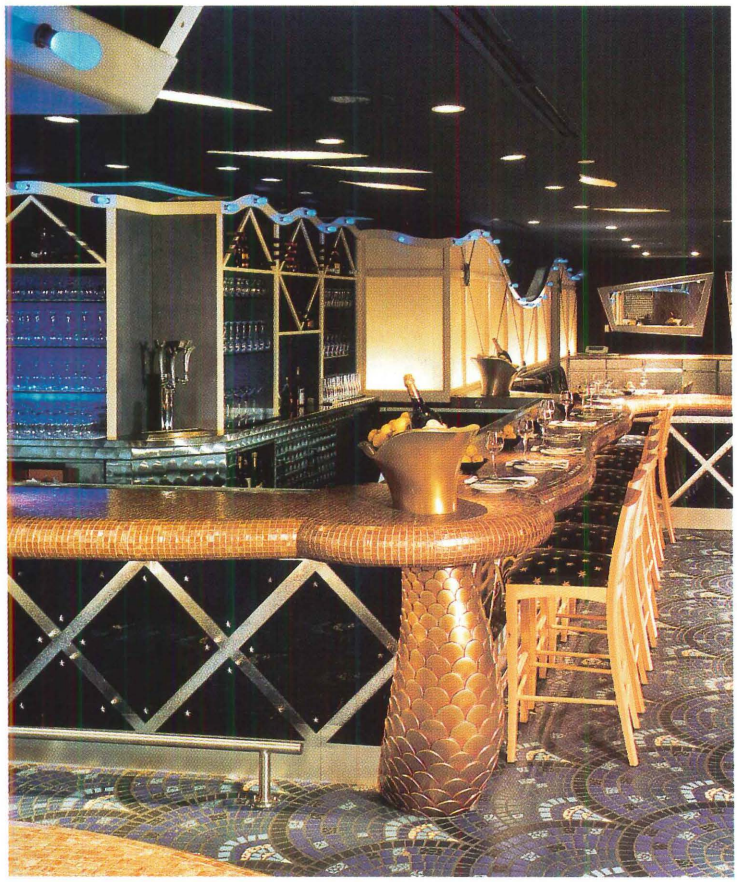
Sirmos, the company that fabricated the parachutes, developed another unique custom feature for the Flying Fish: cast-resin imitations of small incandescent lamps, which are lit by fiber optics. The original restaurant design called for walls studded with incandescent channel strips. But not only would the channel strips have been expensive to fabricate; they would have been too hot and put electrically powered sockets too close to the reach of children. The fiber-optic solution avoided these problems and was accomplished at about the same cost. Some of the faux bulbs are blue and others are an incandescent-like yellow.

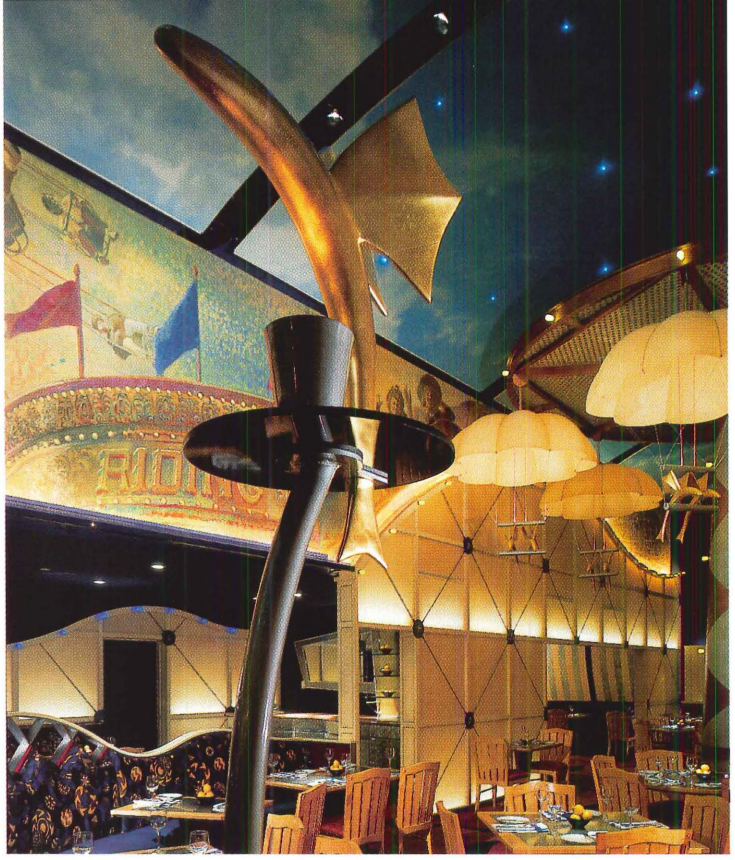
A more conventional application of fiber optics occurs in the ceiling, where "stars" twinkle through pinholes in a deep blue field. A blue

Gareth Fenley is an Atlanta-based freelance writer who writes frequently about architecture.

Project: *Flying Fish Café at Disney's BoardWalk*
Disney World, Florida
Architects: *Robert A.M. Stern (Disney's BoardWalk); Dorf Associates (Flying Fish Café)—Martin Dorf, principal*
Lighting Consultant: *Johnson Schwinghammer Lighting Consultants Inc.*
Electrical Engineer: *Thompson Company*
General Contractor: *McDevitt Street Bovis*







The blue "incandescent" lamps that march over the bar (left) in a wave are actually lit by fiber optics. The flying fish uplight (above) is one of the restaurant's many custom fixtures.

filter on the metal halide illuminator gives the stars a blue cast, and the contrast between the ceiling and the warmly lit parachutes in the foreground helps create a sense of depth.

Even an ordinary-looking detail was solved with a custom fixture. The uplight on a wall-graphic "billboard" is a custom railing fitted with 10W low-voltage halogen lamps. The billboard lights, like other incandescent sources throughout the project, are on a dimming system.

"There were so many details," says Schwinghammer. "It took a lot of work to get it to look like it does. There are a lot of remote transformers and lightboxes and fiber-optic cables. We had to plan it well in advance and work with the electrical engineer, or this would have been a nightmare in the field."



Schwinghammer does not give fiber optics a blanket recommendation. "Fiber optics has limited use," he says. "It's really hard to find a use for it in retail spaces, which is the application for which it is often recommended. Fiber optics will work where you have very, very low ambient light levels; it's perfect for museums, for instance. But in many places it doesn't work.

THE APPARENT LIGHT SOURCE IS THE FLYING FISHES' PARACHUTES.

"In this job fiber optics was good because of the design criteria. We took the technology and used it appropriately. It didn't cost any more to use it than to light it the old-fashioned way, with hundreds of S14 lamps and custom mounting channels. Disney had the vision to achieve this design."

"It came off as well as we wanted it to, even better," says Paul Katen, Senior Development Manager for Walt Disney Imagineering. "It was a challenge to make it whimsical but elegant, with fine millwork and sophisticated layers of finishings. I've done a lot of work for Disney and this is one of the most totally integrated designs I've ever worked on. And it was fun." ■

Manufacturers' Sources

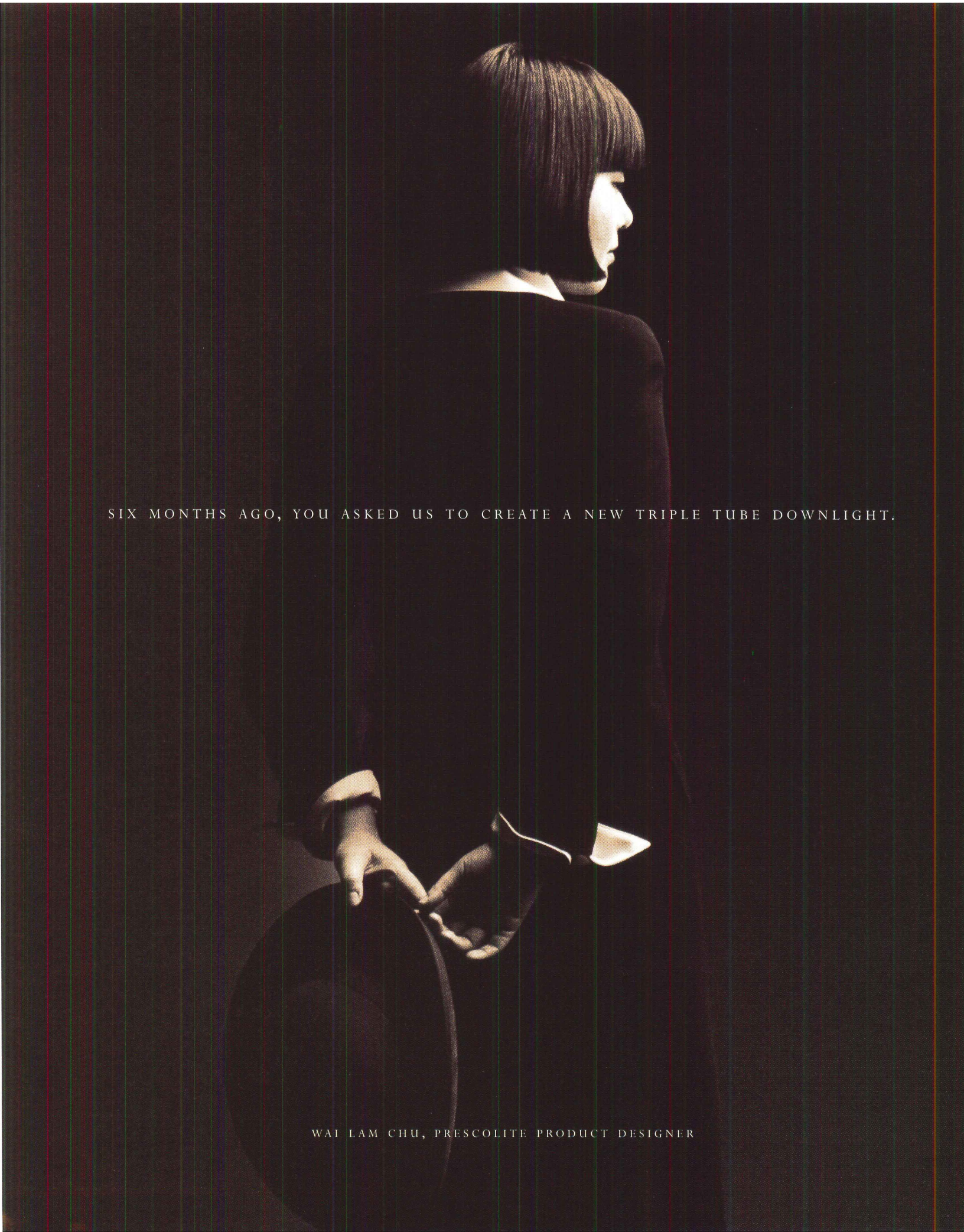
Custom decorative luminaires: *Sirmos Fiber Optics*

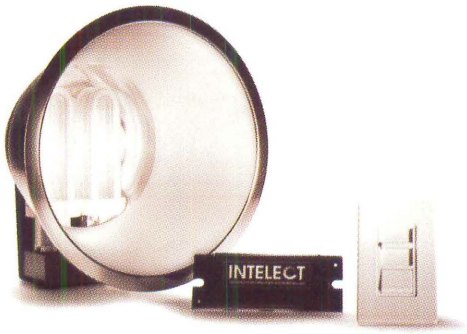
Track and track heads: *Lightolier*

Recessed accent lights: *Prescolite*

Billboard uplight rail: *Starfire*

Cast blue-glass ceiling fixtures: *Prism*


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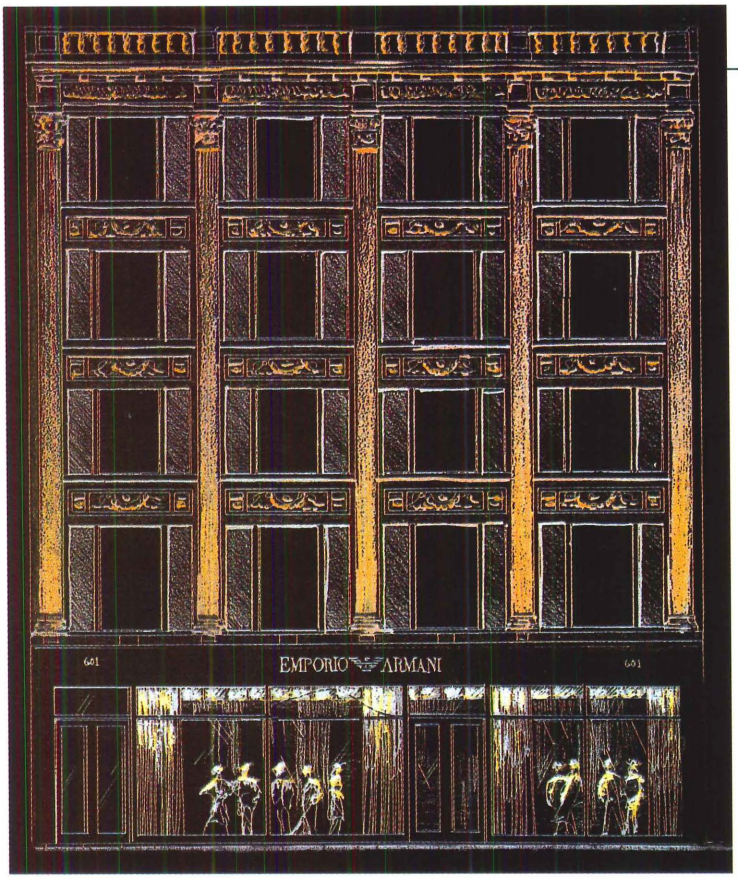
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CIRCLE 61 ON INQUIRY CARD

The Very Fine Art of Lighting Basic Black



by Charles Linn, AIA

Pilasters grazed by uplights and backlit balusters are shown in an early concept drawing, left, and in finished form, below.

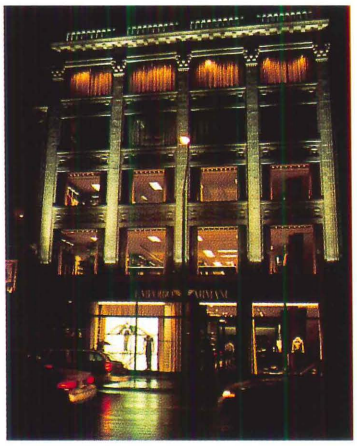
Emporio Armani, the Italian design firm's Madison Avenue store in New York City, occupies a magnificent, five-story stone town house. This conservative, elegant setting is filled with sleek showcases and vitrines made of black lacquered wood and glass that display the designer's classic men's and women's clothing. Almost all of the fashions shown here are either black or in neutral tones, and Paul Gregory, principal of Focus Lighting, says that the biggest challenge to lighting the store was "getting in enough light to make the basic black sparkle, to bring out its richness."

Gregory and Carlos Inclan, the project manager, presented their lighting concepts to the client using renderings done in yellow and white colored pencil on black illustration board (above). Inclan, who created the renderings, used white to simulate edges, corners, and surfaces of objects and yellow to indicate the direction and distribution of light rays coming out of fixtures and the way they will strike the objects. According to Gregory, showing the objects in white outlines and allowing the yellow lines to represent the way light will "fill" the lines can give clients a reasonably accurate simulation of the lighting concepts, provided that the distribution of light from lamps and fixtures is accurately represented.

While the clients wished to avoid overstatement, Emporio Armani is not unlike other stores in that the storefront must be attractive, memorable, and substantial in its visual impact. This was accomplished by installing pods of 70W metal-halide spotlights that graze the pilasters, their capitals, and the soffit above. A balustrade on top of the roof is backlit by a high-output fluorescent sign-lighter with a straw-colored gel.

The front windows on the ground floor are framed by a backlit glass box. This band of brightness draws attention to the clothing, as well as providing ambient light for the mannequins. The glass in the box, held together by a chrome-plated steel frame, is called "seed glass" because of the tiny bubbles that texture its surface. The glass is lightly sandblasted on the reverse side to more evenly diffuse the light that comes from 10W incandescent lamps spaced on 6-in. centers. A similar detail is used to encase the columns at the ceiling. A theatrical projector mounted on a soffit inside the front door projects the Armani logo onto the sidewalk.

Accent lighting for the front window mannequins is accomplished using PAR38 track lighting that is recessed into a pair of troughs parallel to the display windows. The troughs are spaced far enough apart so that the displays can be front- and backlit and are wide enough to allow plenty of room to move the fixtures through their maximum possible range of adjustment. The track heads are made of solid milled aluminum that matches other light fixtures throughout the store, and they are fitted with stainless-steel honeycomb louvers.



Display cases and vitrines on the first floor of the store are illuminated by the same aluminum PAR38 fixtures used in the display windows. Here the track is also recessed into troughs to keep the ceiling plane clean. The vitrines behind the cash-and-wrap counter are illuminated by T8 fluorescent lamps built into a soffit.

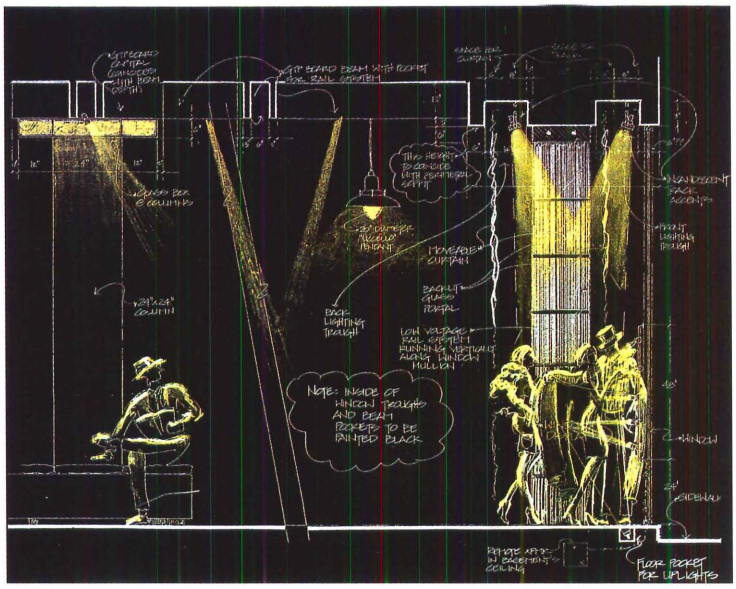
Project: *Emporio Armani New York, New York*
Architect: *Aero Ltd.—Thomas O'Brien, project architect*
Lighting Designer: *Focus Lighting—Paul Gregory, principal; Carlos Inclan, project manager*
General Contractor: *Vista of New York—Phil Arnold, project manager*



PAR 38 track lighting is recessed into light troughs, devised to help keep the ceiling free of clutter while providing plenty of positions for fixtures.



Low-voltage tracks in fluorescent-backlit troughs illuminate clothing in the upper floors (left). Concept drawings (right) show how the front windows and column capitals are lighted.



Low ceiling heights on the second and third floors were a challenge. To achieve high levels of ambient light while accommodating accent lighting, special ceiling troughs were developed. The 6-in.-wide troughs were cove-lit from the sides by recessed T8 fluorescent lamps and covered by matte-finished pieces of acrylic sheet, faux painted to resemble parchment. The acrylic sheet, installed 3/4 in. above the finished ceiling plane, has a row of 3-in.-square holes cut into it to allow MR16 accent lights to be attached to a track inside. The track heads have long stems so that they hang far enough below the recessed acrylic sheet to be easily adjusted. The custom-built shades are made of steel spun into a bullet shape, which is finished in brushed nickel, and they are also fitted with honeycomb louvers.

Windows on the second and third floors also serve as display areas, and the track fixtures used are identical to the solid aluminum type on the first level, except that they are of the PAR30 size.

"The light levels in the store are relatively high," says Gregory. "This allows us to bring out the many colors that are present in a piece of black fabric and to make the most of the neutral colors of the clothing."

In the unlikely event that Armani's clothing line should one day shift to bright colors—in fashion, almost anything is possible—substituting lower-wattage lamps could easily adapt the store to change. "You just don't need as much light when you are lighting objects that have bright colors," says Gregory. ■

Manufacturers' Sources

Track lighting, monopods: *Litelab, Tech Lighting*

Backlit glass boxes and column capitals: *Lightmakers*

Fluorescent cove lighting: *Starfire*

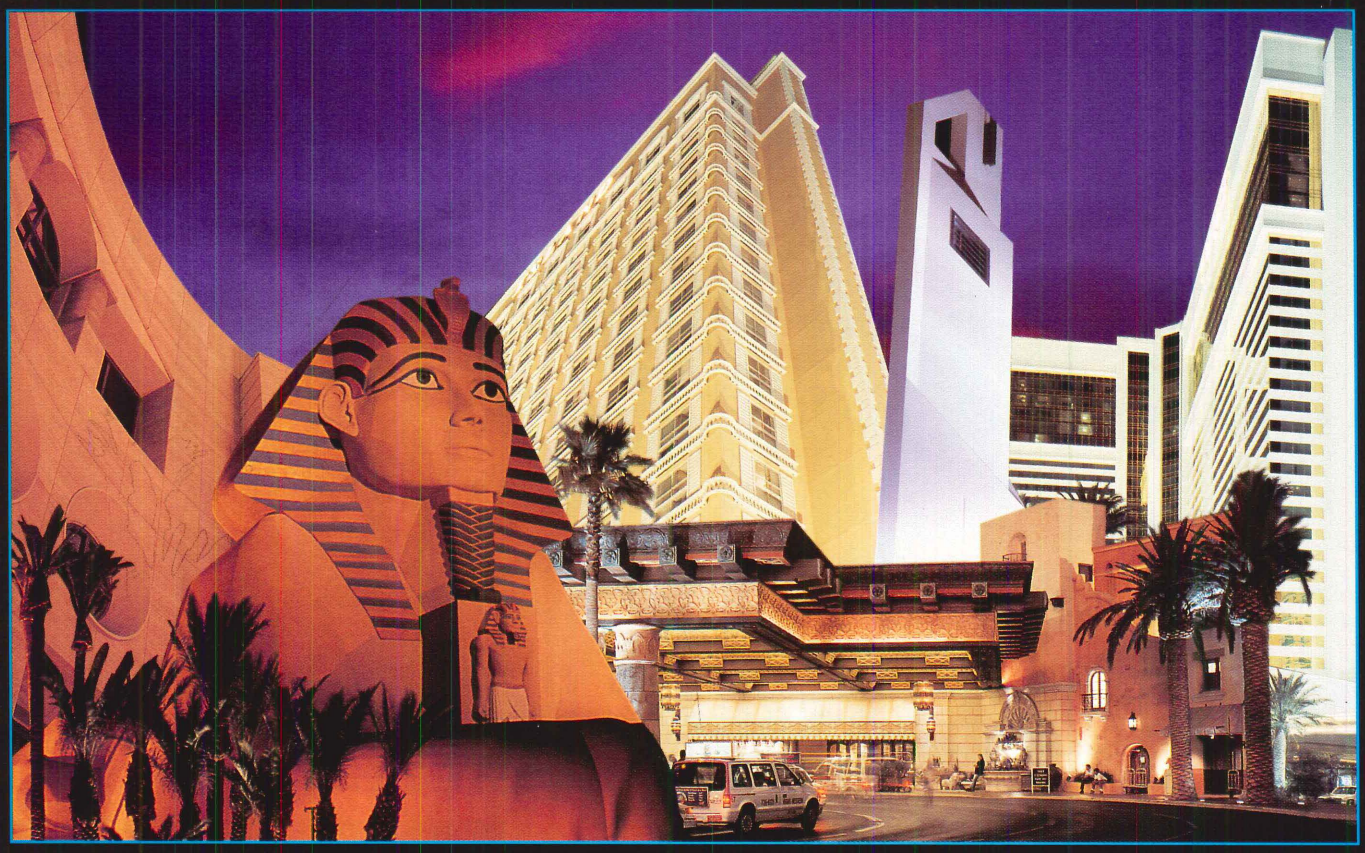
Fluorescent sign lights: *Legion*

Metal-halide uplights: *Hydrel*

Incandescent and fluorescent lamps: *General Electric, Osram Sylvania*

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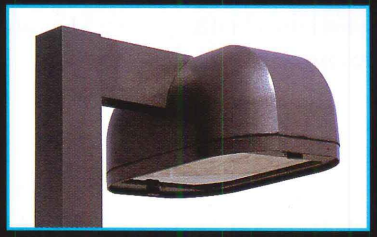
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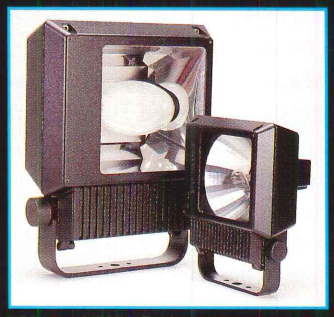
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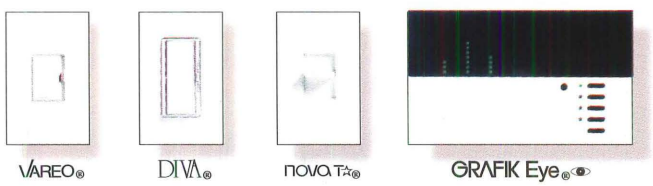


Barbara Kristiansen, Lighting Designer
Light/Resource & Design, Inc., Rhode Island

Lighting designer Barbara Kristiansen knows the ultimate judge of her work is how well it functions. "I design within architectural and interior spaces to accent, reveal and illuminate. To me, dimming is crucial." Ms. Kristiansen also specifies Lutron lighting controls because of the quality of their technical support. "When you call with a question, you talk to an engineer; someone who can help you with even the toughest problems and give you *accurate* information. That's important to me and the electrical contractor."

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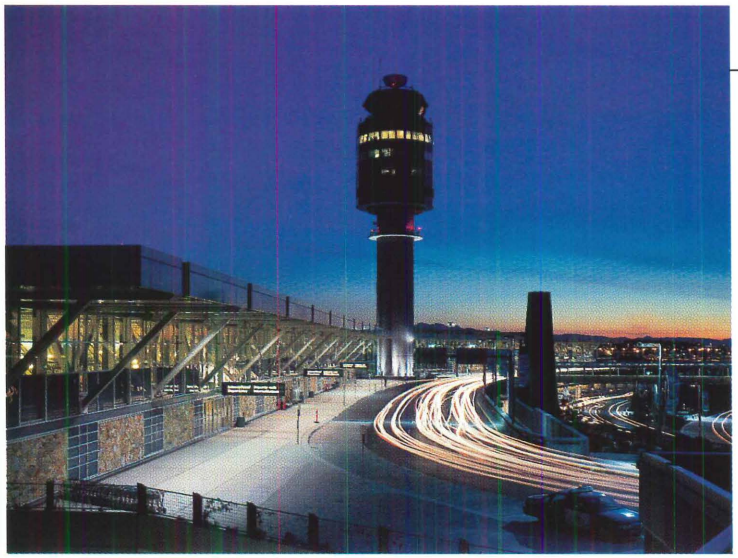
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CIRCLE 64 ON INQUIRY CARD

Forest and River Are Metaphors in Vancouver Airport's Light



by Gareth Fenley

Designers of the new international terminal at Vancouver International Airport wanted it to be much more than a functional processing plant for passengers. "We wanted to take it beyond that and introduce strong regional themes that would celebrate the heritage of British Columbia," says architect Clive Grout of Architectura. That meant taking advantage of fabulous vistas across the sea to the mountains, using a natural color palette and daylighting, and drawing on local and regional design influences wherever possible.

Lighting designers from Auerbach + Glasow were an integral part of the team that searched for design solutions. "We would begin here [at the architect's office] and try to get really clear on the feel, character, and shape of the spaces," Grout says. "The lighting designers came in and we closed ourselves away for a couple of days and had a charrette."

The design team went through drawings of the building and did a preliminary lighting design, which the lighting designers took away to develop more technically, until the design was very clear. The electrical engineer, Robert Freundlich & Associates, then took Auerbach + Glasow's work and prepared drawings for bidding. "It was very collaborative and very invigorating, because we interacted on more than just lighting fixtures," says Grout.

"We were very much a part of early conceptual design," says Len Auerbach, principal in charge of the project. "Our mandate was to design lighting that would play a principal role in the structural look and feel of the building, while adding a strong visual element in the interior design theme of the space."

"Right from the initial massing studies, there was discussion about how to introduce integrated elements," says Larry French, the project manager. "And there was a very strong emphasis on trying to find metaphors that would relate the design to the natural landscape of Vancouver. We had creative jam sessions that were very dynamic and exciting."

On a walk through the facility, arriving passengers are taken up—as if to the treetops—on suspended skybridges that afford spectacular views of the Vancouver skyline and the mountains. Indirect fluorescent fixtures are hung overhead in a chevron pattern, pointing the way as passengers proceed to customs. From the flying walkways, arriving passengers drop down two floors to the arrivals level, traversing a three-story atrium illuminated by fixtures integrated into the suspended bridge overhead.

A regular pattern of indirect fluorescent fixtures around the perimeter directs the visitor to the baggage claim area. The guiding regional metaphor for the fluorescent fixtures was logs floating in a river. As passengers move further into the baggage claim area, the pattern begins to fracture, eventually forming a logjam of fixtures heading toward the exit.

In the double-height main ticket concourse, fixtures are suspended in each bay on custom hanger frames. Frames are organized in configurations of six, four, and two fixtures, depending on the size and shape

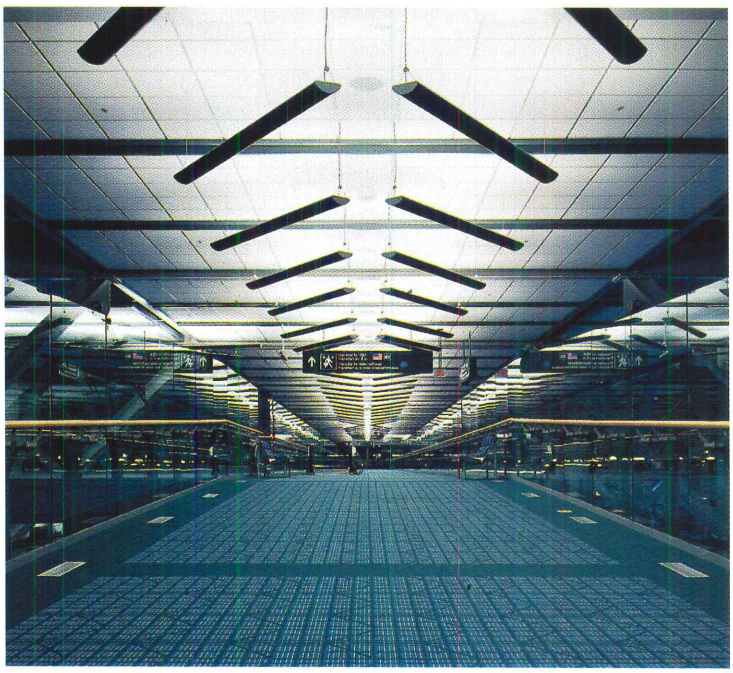


The skybridge is lighted by a chevron of fluorescents above and metal-halide downlights below.

Project: *International Terminal, Vancouver International Airport Vancouver, British Columbia*
Architect: *Architectura—Clive Grout and Stanis Smith, project architects*
Lighting Designer: *Auerbach + Glasow—Len Auerbach, principal in charge; Larry French, project manager*
Electrical Engineer: *Robert Freundlich & Associates*

In the terminal's ticketing concourse (above), downlight cans with indirect-uplight components are suspended from steel hanger frames. In the food court (right), clusters of glass globes with compact-fluorescent lamps arch from poles reproduced from an earlier era, giving the space the feel of a seacoast village. On the skybridge, linear fluorescents hung in a chevron pattern direct passengers to customs.







The guiding metaphor for the fluorescent fixtures in the baggage claim area is logs floating on a river. As passengers leave the baggage area and proceed toward the exits (left), the logs gradually become a "logjam."

of the bays defined by column locations. Each fixture combines uplighting and downlighting components. The designers preferred to use indirect lighting alone, but downlighting was necessary in areas with high ceilings.

At the food court, lighting takes the form of clusters of molded glass fixture heads mounted to floor poles. The historic fixture heads, similar to those found in seacoast villages around Vancouver, were modified to accept compact fluorescent lamps. Grout says that the manufacturer filled the order using fixtures that apparently had been kept in inventory for 45 years. "When we found the fixtures," he says, "some were wrapped in newspapers from 1952."

THE PHILOSOPHY IS THAT LIGHTING IS INTEGRAL TO THE ARCHITECTURE.

At the departure gates, perimeter lighting uses suspended fixtures that again combine direct and indirect components. They were specially modified with a 50-percent-open perforated metal shield on the uplight to minimize glare for patrons on the overhead skybridges.

Energy use in the new terminal is 40 percent less than in its predecessor. "The goal for the entire building was to keep consumption to 1.0 watt per square foot," says French. "It clocked in at 0.8, an extremely low figure for a building of this size." Photocell-based daylighting controls and cycled switching systems contribute significantly to the energy savings.

Maintenance concerns were not forgotten on the project. French says, "We kept the number of different lamp types down. The lamp inventory they have to keep on hand is very small for a building of this size." The terminal has more than 750,000 sq ft of lighted interior space.

Grout calls the project "a custom job within a commercial budget." To save money, bulk purchases were made directly from the manufacturers, an unusual procedure for this government client. The owner negotiated purchase prices for luminaires and supplied them to the contractor. "We also got price commitments for a planned future expansion that will use the same fixtures," Grout adds. "Otherwise, the situation would leave us very vulnerable to paying more the next time around."

The terminal's lighting system demonstrates the value of an integrated design process. Says Grout, "We were searching for the lighting that was appropriate for each space, not just laying a grid over the whole facility." Adds Auerbach, "The project relied on the philosophy that lighting is integral to architecture. It is not a pasted-on thing." ■

Manufacturers' Sources

Recessed metal-halide downlights: *Kramer Lighting, Inc.*

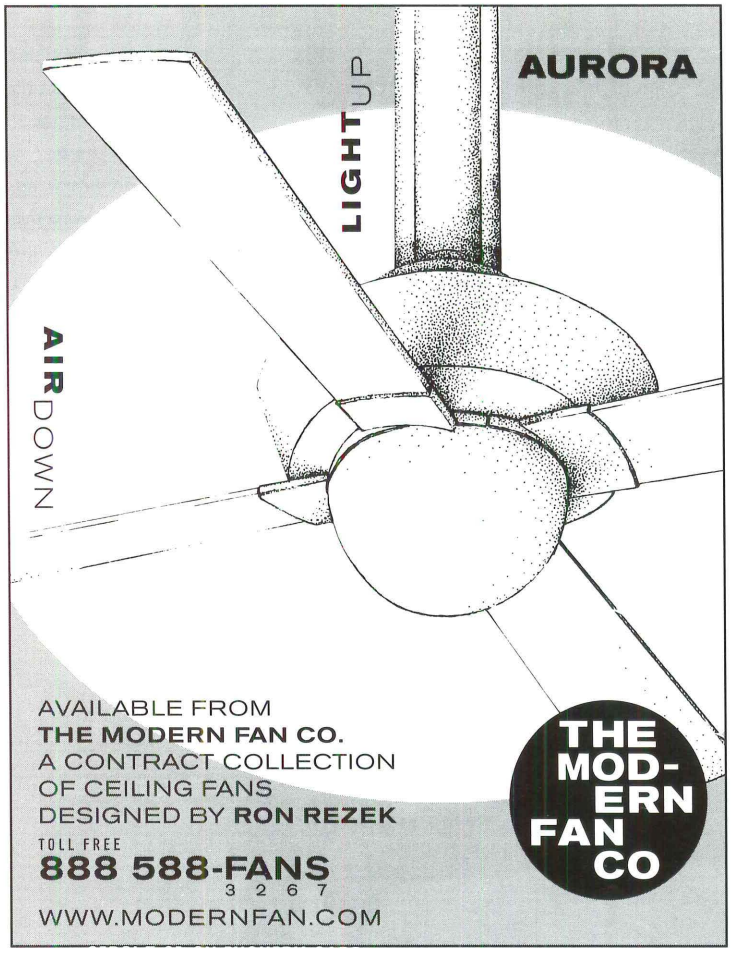
Recessed compact-fluorescent downlights: *Lightolier, Inc., Zumtobel/Staff*

Linear fluorescents: *Ledalite, Inc.*

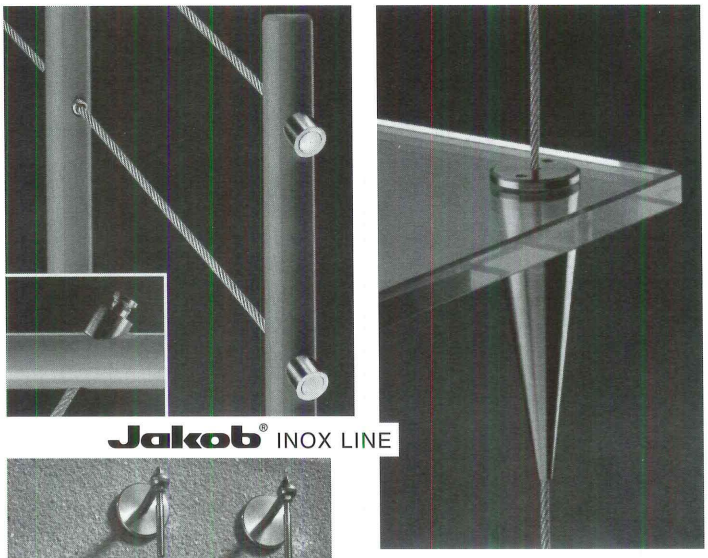
Freestanding poles in metal halide: *Poulsen, Holophane*

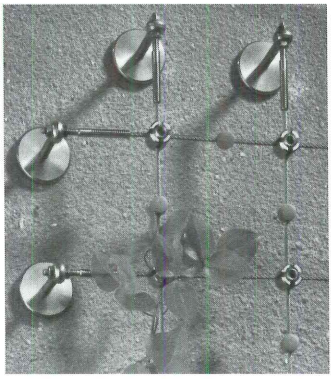
Compact-fluorescent task lighting: *Zumtobel/Staff*

Glass shades: *Holophane*



CIRCLE 65 ON INQUIRY CARD

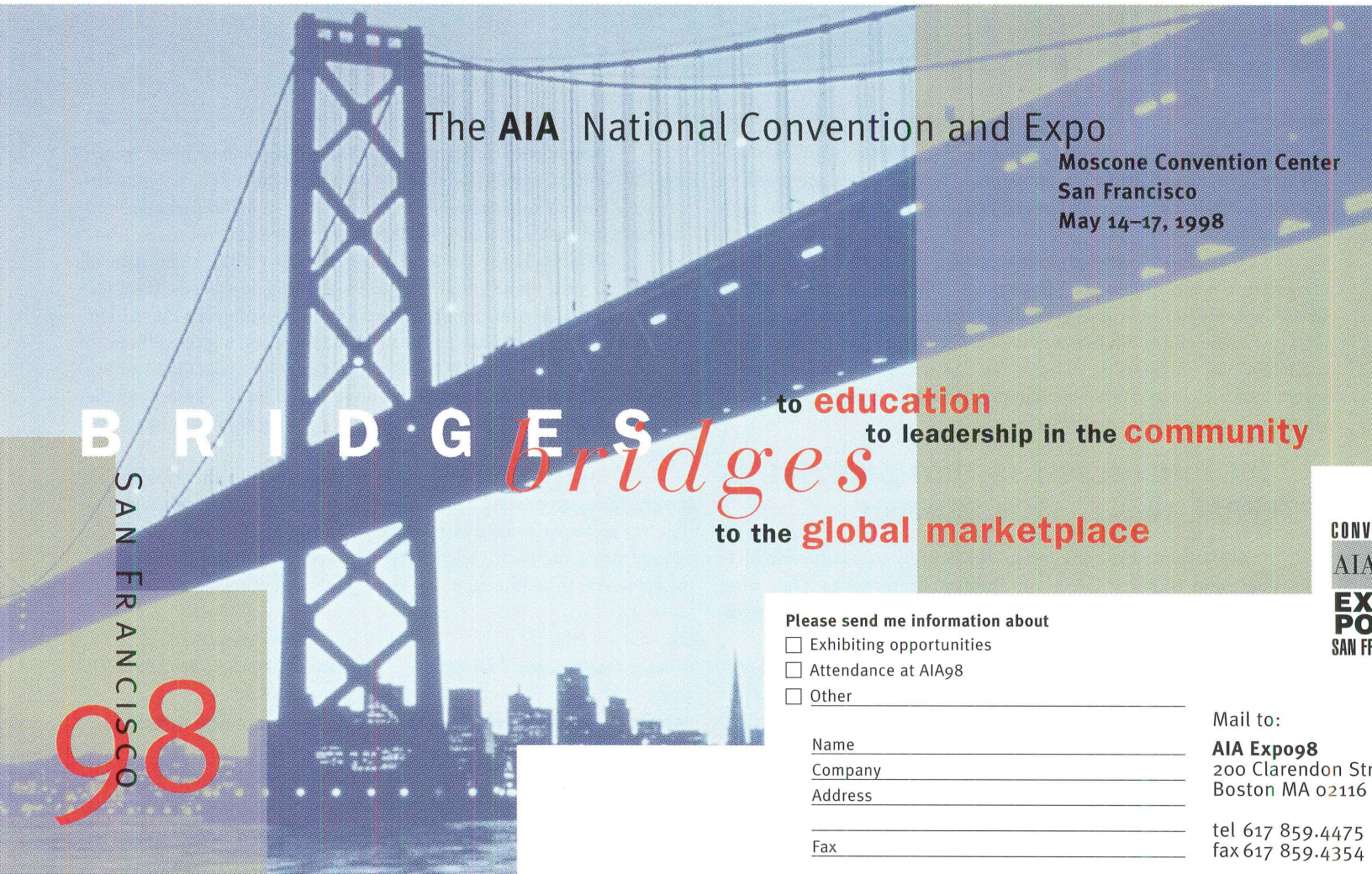




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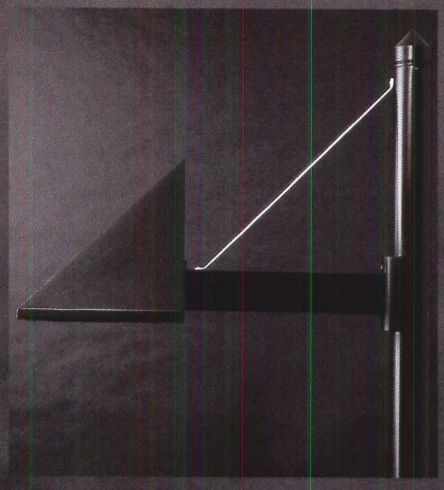
DécorCable Innovations, LLC
648 West Randolph
Chicago, IL 60661-2114
312-474-1100 or 800-444-6271
Fax 312-474-1789

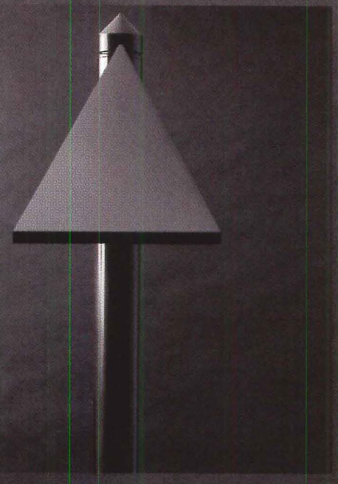
CIRCLE 66 ON INQUIRY CARD



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The new MITRE series from AAL, when your design dictates an alternative to a round or square form. The MITRE is scaled in three sizes, offering design continuity for all your site lighting. Available in multiple pole and wall mounting configurations as well as bollards.





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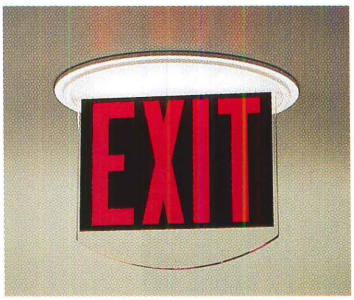
CIRCLE 67 ON INQUIRY CARD

LIGHTING BRIEFS



◄ Energy-efficient track light

ProLight's new track-mounted luminaire incorporates a multiparabolic reflector said to deliver maximum punch from triple twin-tube compact-fluorescent lamps. Intended to replace 150W floods in retail-display and similar lighting applications, the fixture head is the same size as many common track housings. The fixture is available in 18-, 26-, and 32-watt versions; a gimbal-type mounting arm allows for precise aiming. Finish options include white, as shown, and black. 800/968-2556. ProLight, Holland, Mich. CIRCLE 230

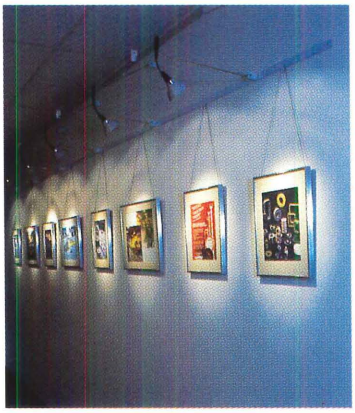


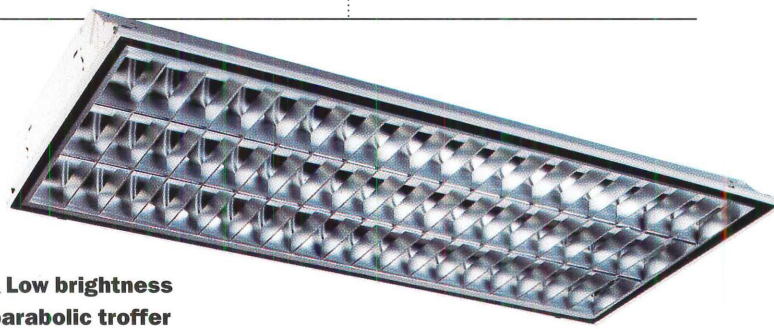
▲ Simplify your ceilings

A brand-new design, the ExitLite downlight combines the functions of a corridor downlight, an exit sign, escape-route signage, and emergency-egress lighting in one low-profile, recessed luminaire. It produces over 10 fc in the emergency mode; UL-approved fixtures need only a 5-in. recess. 305/652-1600. WILA Lighting, Inc., Miami. CIRCLE 232

▼ Dual-function museum fixture

The Gallery version of the Exotrack joins lighting and picture hanging in a wall-mounted railing. Cantilevered brackets hold the flat conductor; lampheads can be moved at will. 203/367- 5188. Tortran, Bridgeport, Conn. CIRCLE 233





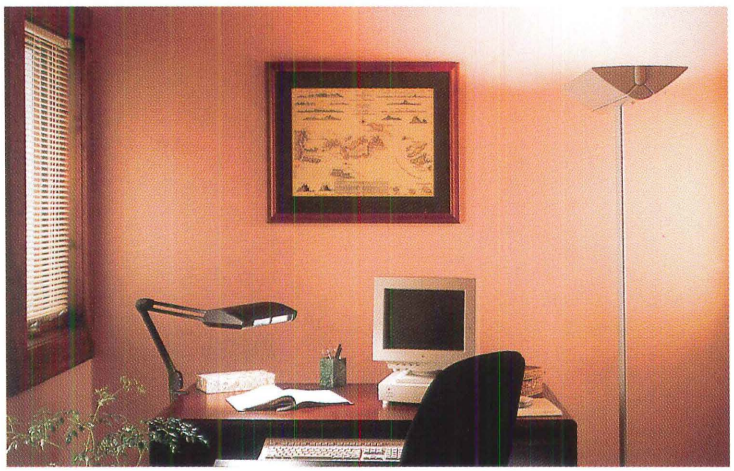
► Tihany sconce

The Ori sconce is part of a new lighting collection the well-known restaurant and hotel designer Adam Tihany developed for Baldinger. An Art Deco–influenced collaboration with project designer Rafael Alvarez, the ADA-compliant fixture resembles M. Hercule Poirot, with a polished-nickel "moustache" set under a 12-in. disc of frosted glass. 718/204-5700. Baldinger Architectural Lighting, Inc., Astoria, N.Y. CIRCLE 231



▲ Low brightness parabolic troffer

The TE3P troffer, a shallow fluorescent fixture said to provide a high degree of visual comfort in VDT-intensive work spaces, comes in 2-by-2-ft and 2-by-4-ft configurations. The steel framing is painted black to give the low-iridescence louvers a floating appearance. The fixture takes three T8 lamps; electronic ballasts are standard, and the troffer may be specified with options such as master/satellite wiring and dimmable ballasting. The unit meets the "preferred" requirements of the IES-RP1 when fitted with an optional specular-finish reflector. Steel housing is only 3 3/4-in. deep, and can be installed in NEMA type F or G ceilings. An architectural catalog covers all specification grade products. 800/523-3602. Simkar Lighting, Philadelphia. CIRCLE 234



◄ Problem-solving duo

Luxo's new Two Component luminaire line addresses two office-lighting jobs: providing a comfortable level of indirect, ambient illumination without glare on computer screens, and supplying the right light for paper-based desktop tasks. Options include freestanding floor lights and ceiling-, furniture-, and wall-mounted ambient luminaires. There are eight models of portable, personally adjustable task lights for compact-fluorescent or halogen sources. 800/222-5896. Luxo Corp., Port Chester, N.Y. CIRCLE 235

▼ Updated "schoolhouse" light

Berkeley ceiling fixtures have shades of satin-etched glass suspended from an hourglass-shaped canopy in an oil-rubbed bronze finish. 415/778-4300. Boyd Lighting, San Francisco. CIRCLE 236





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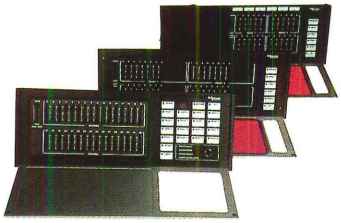
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LIGHTING BRIEFS



▲ Theatrical exterior floods
The Ecodome is a weatherproof, tamper-resistant housing for Studio Color automated luminaires. The polycarbonate dome allows full use of the luminaire's 360 degrees of movement, letting designers illuminate 20-story-high buildings like a stage set, with roaming spots and vivid colors. High End Systems, Austin, Tex. **CIRCLE 237**

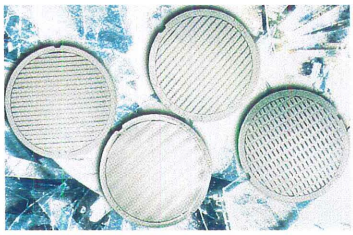
▼ Commercial dimming
Macro describes its Designers Series as the industry's first family of compact, affordable, multifunction light-dimming and control systems for small to medium-size commercial lighting applications. Each panel is easy to program for multiple presets of all dimmable light sources, on multiple circuits, indoors and out. Preset scenes are held in memory until reprogrammed, or manually overridden as needed. The control unit fits nearly flush into building walls; slider controls are illuminated behind a lockable viewing door. 800/99MACRO. Macro Electronics Corp., Austin, Tex. **CIRCLE 238**

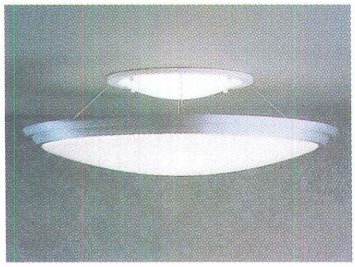




▲ Cove and accent-light combo
Developed as a sleek fixture for reception areas, conference rooms, banks, and galleries, the Flap Wall System consists of extruded-aluminum sections that work as an architectural cove, concealing T8 fluorescents. Modules can be ordered with a hidden low-voltage track for snap-in MR Spots to illuminate artwork. 516/694-9292. Artemide, Inc., Farmingdale, N.Y. **CIRCLE 239**

▼ Spread lens line
New spread lenses soften the distracting striations from bare PAR floodlamps, widening the beam of light and producing a more even illumination suitable for museum and gallery applications. For PAR38, PAR36, and AR111 lamps, lenses come in three versions: 30- and 70-deg linear, and a 40-by-70-deg wallwashing lens. 212/521-6900. Edison Price Lighting, New York City. **CIRCLE 240**



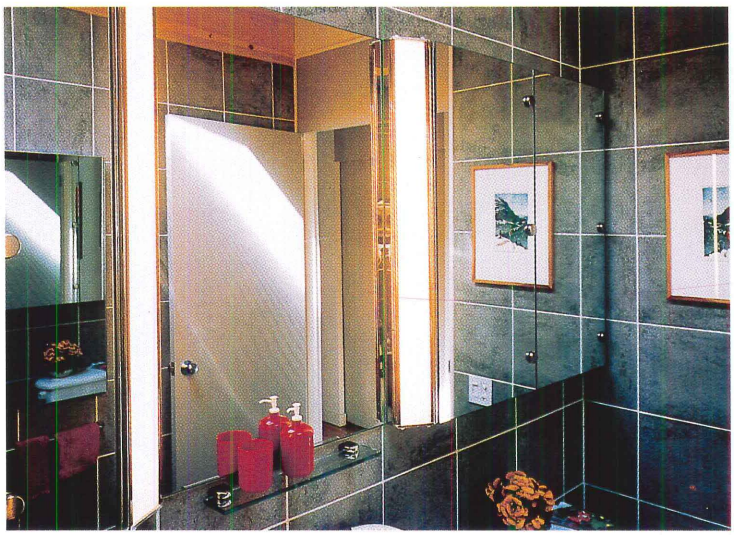


▲ Pendant for low ceilings
Visa's new Ovation luminaire takes advantage of a shallow (3-in.-deep) recessed housing that can hold two 26W quads or a single 42W triple fluorescent, illuminating a low-profile diffuser with the look and feel of a pendant. Shade and trims match larger-scale pendants for a uniform look even in 8-ft-high hallways. Visa Lighting, Milwaukee. **CIRCLE 241**



◄ Exterior line-voltage MR16
The Cambria 353 incorporates an electronic transformer in its stem assembly that allows the MR16 fixture to connect directly to 120-volt power. Made of a noncorrosive composite material used in spacecraft, the light's 20-50W source is recessed to reduce glare. Suitable for exterior accent or flood lighting, the Cambria 353 is the same size as its 12V counterpart. Fully adjustable, the fixture offers versatile mounting options. 805/496-2003. Lumière Design & Manufacturing, Westlake Village, Calif. **CIRCLE 242**

▼ "Built-in" bath lighting
The first of Lightolier's new Specialty Decorative fixtures, Alice is intended as "an integrated architectural treatment." The 2- or 3-ft-long surface-mounted fixtures fit alongside a mirror or between cabinets. 508/679-8131. Lightolier, Inc., Fall River, Mass. **CIRCLE 243** ■





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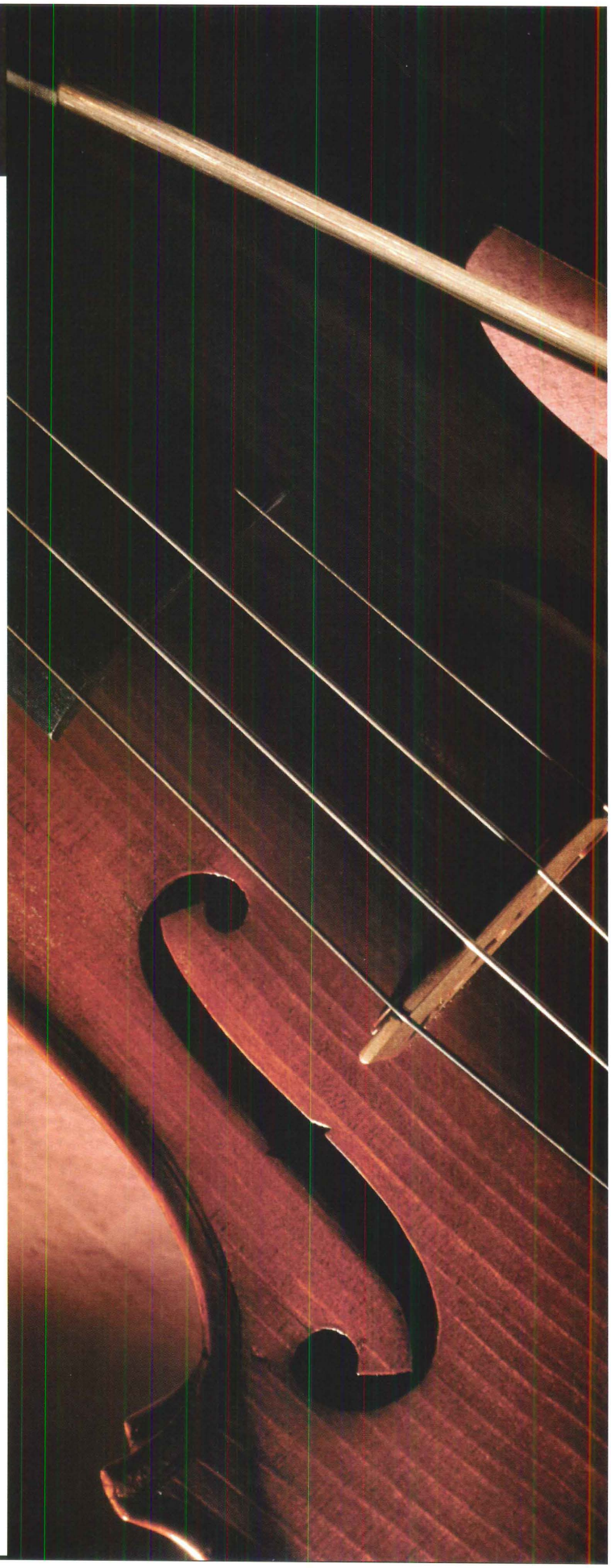
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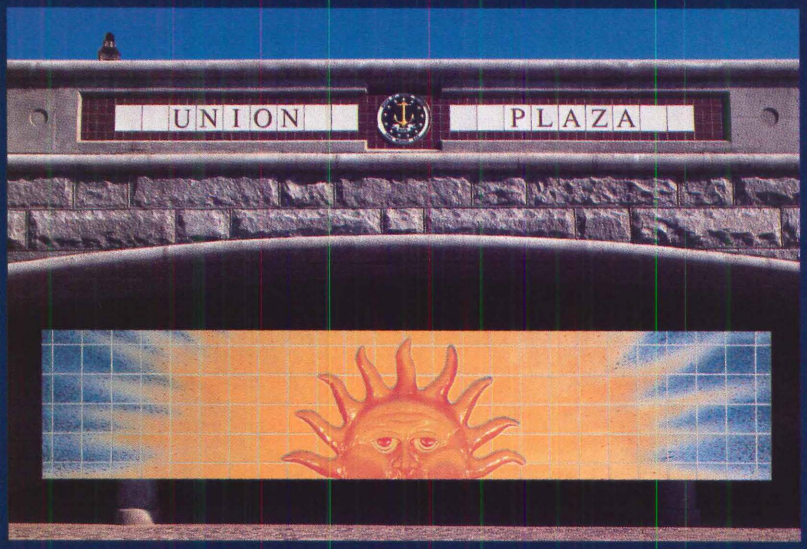
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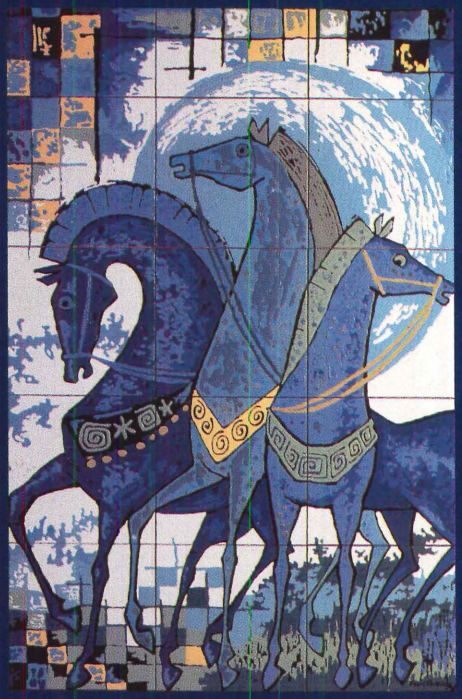


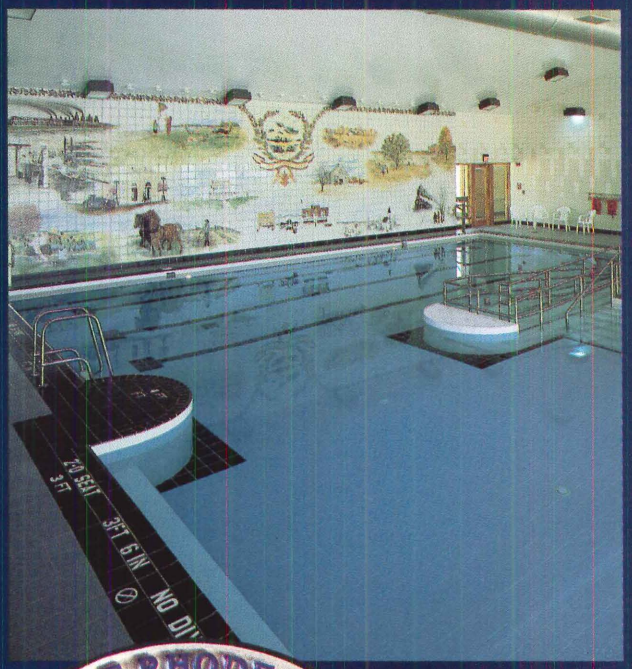
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Sam Giordano is a perfectionist.

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NEW PRODUCTS

November's Products section starts with a look at four components developed to meet the stringent aesthetic and performance standards demanded by the architects of the Getty Center. This massive project tapped the skills of hundreds of manufacturers, artisans, and subcontractors, and fostered new building technologies that will be marketed as standard assemblies. On the next page, we show some products from Europe, where long-term performance is also vital. Product Briefs, pages 182–83, includes gates of hand-forged steel and wall protection that complements interiors.—*Joan Blatterman, New Products Editor*



CUSTOM-MADE FOR THE GETTY: PRODUCTS SET A HIGH STANDARD

Complex curtain wall

Nothing about the almost 120,000 sq ft of aluminum-framed curtain wall at the Getty Center (above) was standard. According to Denny Mootz, the project manager for manufacturer Wausau Metals, no two walls on any of the six buildings were identical.

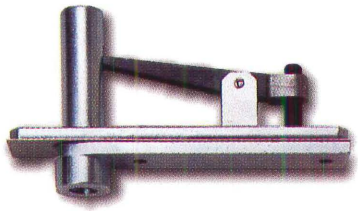
The company designed and fabricated three different sizes of pressure wall and reinforcing to span openings of 60 ft or more in height, and mocked up six shades of "Getty White" to obtain the eventual choice for the fluoropolymer-painted aluminum panels. Meier & Partners associate partner James Crawford specified the white-painted panels in 4,500 distinct shapes, sizes, and configurations, all of which had to meet an extraordinarily high architectural standard. Where the distance between two buildings required an extra measure of fire resistance, the company designed a steel-reinforced wall section. Wausau also custom fabricated window systems for the Getty project, including one configuration that allowed the attachment of stainless-steel cladding to window openings recessed into travertine. *Wausau Metals, Wausau, Wis.* CIRCLE 250

Modular ceiling treatment

The ceilings in many office and lab spaces in the Getty were designed to meet project architect Richard Irving's concept of a clean, "non-competitive" surface that would reinforce the architecture's 30-in. basic module. Working with Meier team member Ron Musser, lighting designers Fisher Marantz Renfro Stone, and Gil Hasler of the ceiling contractor Hutchinson Corp., Irving detailed a coordinated system based on a custom-sized Cashmere acoustic tile made by Celotex (below left). The acoustic material had to achieve a flat, uniformly white color appropriate to the color temperatures of the fluorescent sources specified. Linear fixtures were stretched from 48 to 60 in. in a custom housing, creating a 6-in. pan at each end to hold fire-sprinkler heads and life-safety speakers. The edges of the light fixture function as intermediate grid members, supporting tiles like a cross tee. Another special-size panel, 30 by 26 in., is used where light fixtures and air units share the same module, and recessed downlights are centered in 30-in.-square tiles. Each of the 156,000 sq ft of tile supplied matched the exact shade of white specified by the architects. *The Celotex Corp., Tampa, Fla.* CIRCLE 251

Shading preserves the view

Many of the dramatic windows in the Getty, including 50 30-ft-tall windows in the food-service building, 45-ft-high windows in the auditorium, and the 25-ft-high radiused wall of the library, are shielded by a roller-type MechoShade using ThermoVeil shadecloth in a custom gray color (below right). The system was selected for its ability to handle the large lengths of fabric required for the huge glazed areas with a chain- or motor-operated clutch mechanism capable of positioning the shade at any desired point. The fiberglass fabric allows views through the material while reducing heat gain and glare. A specially configured recess for the roller mechanism was needed to install the shades. *MechoShade Systems, Inc., Long Island City, N.Y.* CIRCLE 252



Seismic top-throw pivot

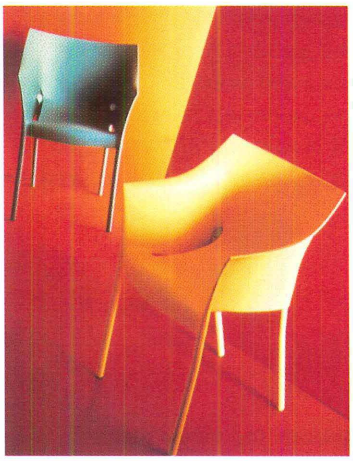
The overscaled size and weight of the Herculite-glazed center-hung doors at the Getty required a pivot with sufficient capacity to restrain the panels during earthquakes. Working with hardware consultant Frank Falletta, Dor-O-Matic developed an extended-throw pivot (above) to keep doors securely hung through anticipated seismic movement, and is now marketing it in earthquake-prone regions of the country. *NT Dor-O-Matic Architectural Hardware, Shepherdsville, Ky.* CIRCLE 253 ■





EUROPEAN PRODUCTS GET A U.S. SHOWING

Building products are serious business in Europe. And a good place to get a feel for the kind of design and technology represented by this business is at Batimat, the massive trade show held in Paris every two years. Attracting over 600,000 visitors, the event claims to be the world's biggest exhibition in the construction sector, nearly twice the size of its nearest competitor. The 4,000 exhibitors expected in this month's exhibit were drawn from all the countries of Europe (half from France itself), as well as large delegations from Asia and North America, including about 250 U.S. firms. For the first time, a satellite Batimat was held in New York in conjunction with the Interplan show. And in 1998, the trade-show giant goes to Russia, Turkey, and China. If you can't get to the show, here's a look at some new European products.—*J.F.B.*

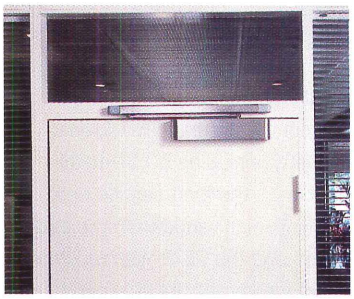


▲ Form-fitting

Designed by the Frenchman Phillipe Starck and made in Italy by Kartell, the Dr. No stacking chair is fast becoming a furniture star in the U.S. All seven colors are shown in a 1997–98 catalog. I.L. Euro, New York City. **CIRCLE 254**

▼ Danish door closers

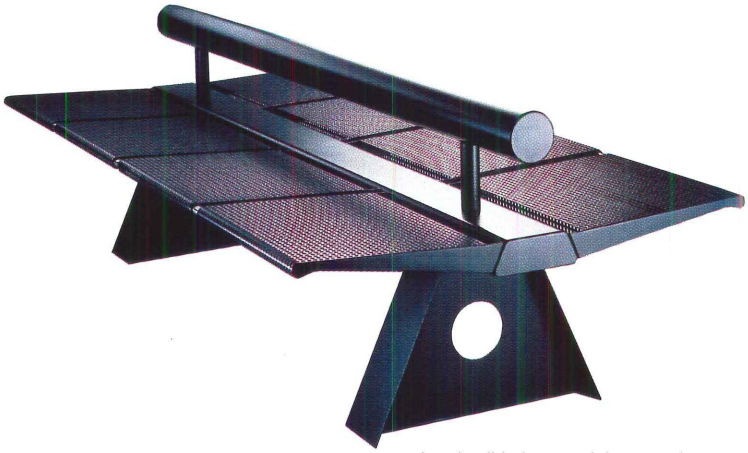
Winner of several prestigious design awards in Germany, D Line hardware includes bath fittings such as towel bars and cup dispensers; door pulls, lever handles, and cabinet knobs; signage; and door closers. Said to close doors securely every time, without slamming, these sleek stainless-steel units use mineral oil to quietly shut doors. The closing force is adjustable. D Line International, Copenhagen, Denmark. **CIRCLE 256**



► Simple from Sweden

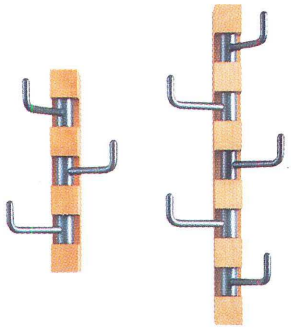
Stockholm-based Cbi makes furniture, lamps, and furnishings like this upholstered chair that remind you of why you always liked Scandinavian design. Totem Design, New York City. **CIRCLE 255**





▲ Indoors or out

For high-profile projects with a budget to match, the cantilevered-seat Butterfly bench is meticulously crafted of perforated and solid-sheet stainless steel. Designed by Gabriele Bertossa and Costanzo Marchi, the rugged piece is made in Switzerland. 800/568-2585. Design Link Int'l., Boston. **CIRCLE 257**



◄ Birch from Sweden

Unlike Swedish furnishings with cute names like Olaf or Beatnik, these coat racks of solid birch with adjustable metal hooks are called Quasimodo. A hat-shelf/hanger bar unit called Sancho P. was created by the same designer, Jonas Lindvall, for David Design, Malmo. www. totemdesign.com (Web page). Totem Design, New York City. **CIRCLE 258**

▼ Radiator as Slinky

Designed by Briton Paul Priestmen, Hot Springs are wall-mounted hot-water radiators formed of a continuous spiral of steel tubing. Manufactured in England by Bisque, units put out as much as 3,717 Btu. For vertical mounting, Hot Springs come in 25-, 49-, and 76-in. heights, with flexible connections that fit standard 1/2-in. pipe. Finish options include over 1,500 colors as well as nickel and other metals. 212/219-2120. 3-D Laboratory, New York City. **CIRCLE 259**

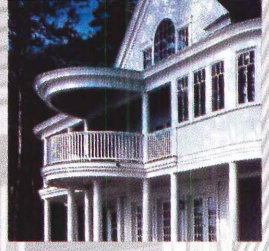




▲ Dry-joint rainscreen

Developed in France, lightweight Carea cladding is made of a fiber-reinforced mineral composite formed in an autoclave into 1/4-in. thick tongue-and-groove panels that interlock to prevent water infiltration without caulking. Integrally colored panels meet all appropriate building codes. Productions Carea, Inc., Saint Jerome, Que. **CIRCLE 260** ■

Vinyl Builds America Better



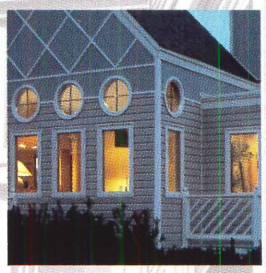


Whether you're designing office towers, commercial buildings, health care facilities, schools or universities, condominiums, single family housing or anything in between, join the legions of architectural and building professionals making vinyl their material of choice.



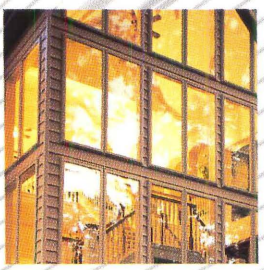
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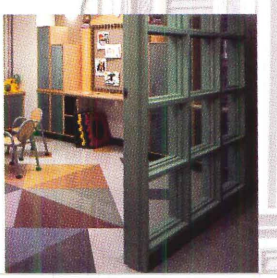
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- **Siding**
- **Windows**
- **Trim**
- **Piping**
- **Electrical materials**



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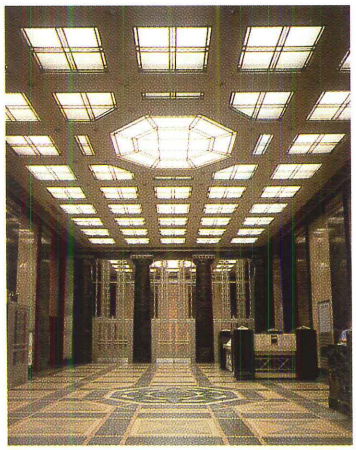
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PRODUCTBRIEFS

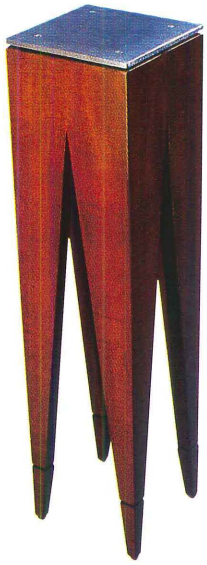


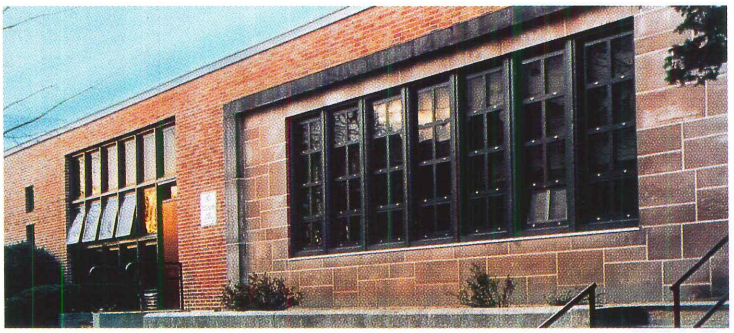
▲ Deco look in new glass

The renovation of a landmarked, 1937 Manhattan post office meant re-creating missing lights in the backlit lobby ceiling, a major design feature with 20 different sizes of Deco-style glass. Cesar Color created a custom ChromaFusion laminate that captured the special translucency, optical distortion, and imprinted striations of the original amber-colored rolled glass. 800/275-7272. Cesar Color, Inc., Burlingame, Calif. **CIRCLE 261**

▼ Architectonic shapes

Former New Yorker Jay Reynolds, AIA, uses building shapes, materials, and geometries in the furniture he designs. Pictured below: the 4-Pod table in cherry with a stainless-steel top, an angular volume set on sturdy, tapered legs. 310/559-6722. Office of J. M. Reynolds, Architects, Los Angeles. **CIRCLE 262**





▲ Vandal-resistant glazing

The architect for a New England school district didn't want to use prisonlike exterior grilles to curb an epidemic of glass breakage; instead, all windows in this school were refitted with Acrylite AR acrylic sheet. Installed in an insulating unit with tempered glass on the inside, the acrylic sheet needs an abrasion-resistant coating on only one side, lowering its cost. 201/442-6044. CYRO Industries, Rockaway, N.J. **CIRCLE 263**



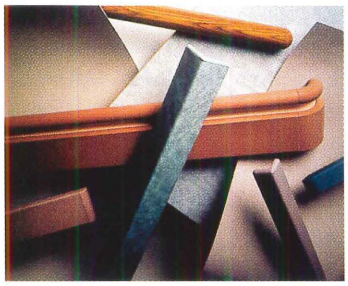
◄ Residential metal roofing

The developers of the Aston Wood steel panel say its light weight—60 lbs/sq—means significant cost savings. Coated with a fade-resistant fluoropolymer, the "lifetime" interlocking roof panels come in cedar-shake and slate-look patterns. 519/858-9937. MetalWorks/Centria Joint Venture, Moon Township, Pa. **CIRCLE 264**

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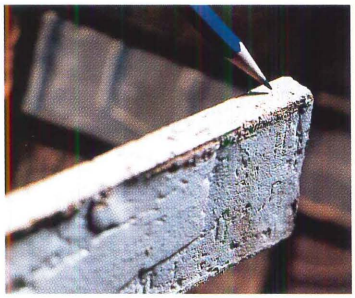


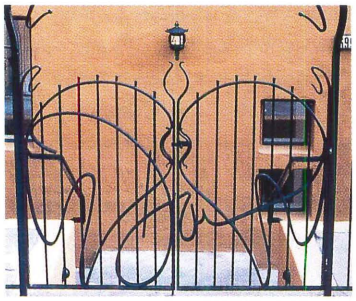
◄ Patterned wall protection

With over 160 stone, wood-grain, and graphic patterns, the Acrovyn Chameleon Collection permits a wide choice of decorative options in handrails, corner guards, impact-resistant wall panels, and wall-covering for heavy-traffic environments. 800/233-8493. C/S Group, Lebanon, N.J. **CIRCLE 265**

▼ Real, thin brick

A clay brick only 1/2-in. thick weighs 20 percent as much as a standard brick. For use as an accent such as a fireplace surround or a backsplash, ThinBrick comes in dozens of colors. 303/783-3000. Robinson Brick Co., Denver. **CIRCLE 266**





▲ Architectural wrought metal

A hand-crafted gate of forged steel highlights the dramatic flair metalwork can give even utilitarian settings. Catalog shows rails, fire screens, and gates from this atelier. 415/550-9328. Jefferson Mack Metal, San Francisco. **CIRCLE 267**



▲ Right chair for the right spot

Influenced by the great designers of American Streamline Modernism such as Raymond Loewy, Paul Frankl, and Gilbert Rohde, Luis Henriquez fabricates interesting, comfortable furniture with the flair of the 1940s. Pictured: a generously proportioned lounge chair by Rohde, upholstered in tangerine-colored Zax mohair. Seating, tables, and casegoods are made for both contract and residential use; trade and quantity discounts are offered. 800/367-3003. Design America, Coral Gables, Fla. **CIRCLE 268** ■

THINK AGAIN.



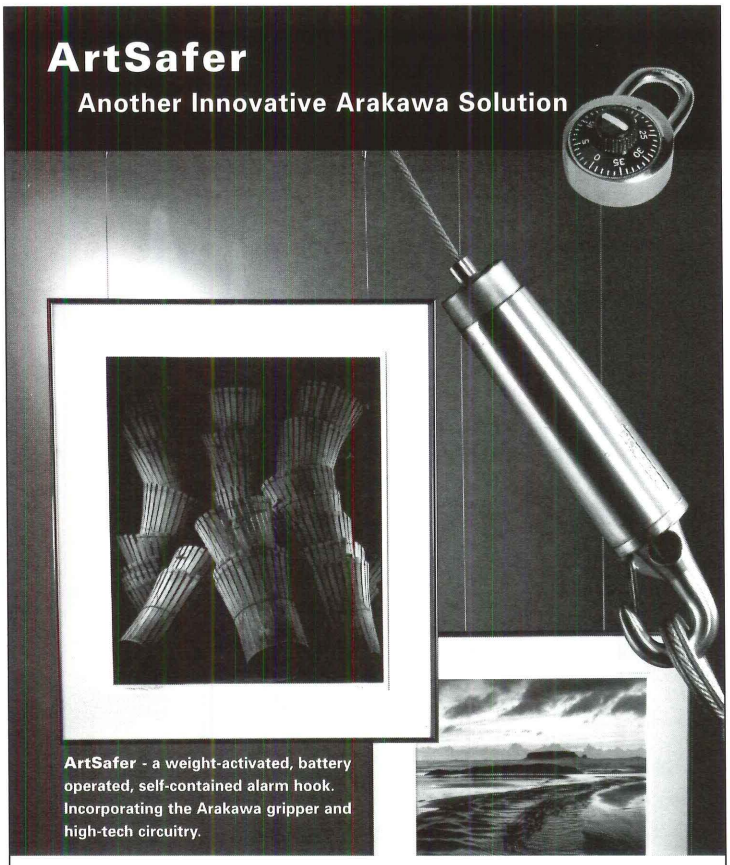
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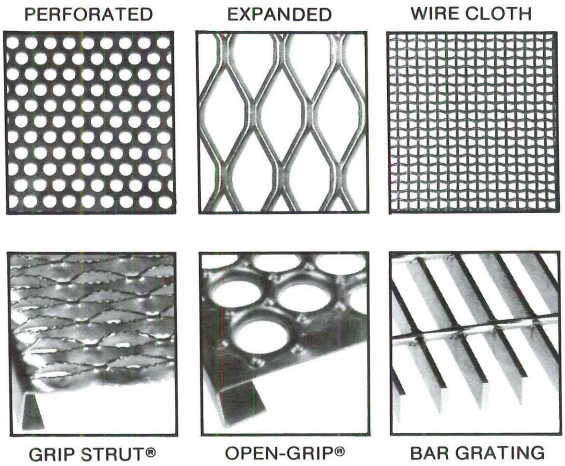


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PRODUCTLITERATURE

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Solid-phenolic toilet partitions

An ultradurable material said to have good flame-spread and graffiti-resistant properties, Hoechst Celanese's Trespa phenolic can be specified in washroom compartments that meet many design and occupancy requirements. A four-page brochure illustrates various hinging, mounting, and privacy options available and shows phenolic sheet made into storage lockers and laboratory countertops. 800/4-TRESPA. DesignRite, Poway, Calif. **CIRCLE 270**

Accessible washrooms

Stating that space for people in wheelchairs is a fundamental design consideration, Bobrick's revised planning guide includes captioned details and layouts illustrating critical dimensions and recommended fixture and accessory placements for public washrooms. The 20-page brochure was prepared under the direction of Ronald Mace, FAIA, the president of Barrier-Free Environments, Inc., and a leading proponent of universal design. 818/982-9600. Bobrick Washroom Equipment, Inc., North Hollywood, Calif. **CIRCLE 271**

Water-mist fire suppression

A new fire-suppression system for Aisle-Saver's compact library storage shelving uses fine water sprays to control fire situations, minimizing possible water damage. 908/272-8888. White Systems, Inc., Kenilworth, N.J. **CIRCLE 272**

Aluminum window sourcebook

A 24-page brochure describes custom aluminum windows and wall systems, including projected, rolling, and double-hung windows, storefronts, entrance systems, and curtain walls. Case histories describe specific architectural problems and illustrate window and wall solutions. 715/845-2161. Wausau Metals, Wausau, Wis. **CIRCLE 273**

Office cable management

This 48-page report provides a guide for those who seek a basic understanding of good cable-management practices, explaining how voice and data cables can be interfaced with office furniture in a way that preserves their signal integrity. Fax 800/563-7128. Office Specialty, Holland Landing, Ont. **CIRCLE 274**



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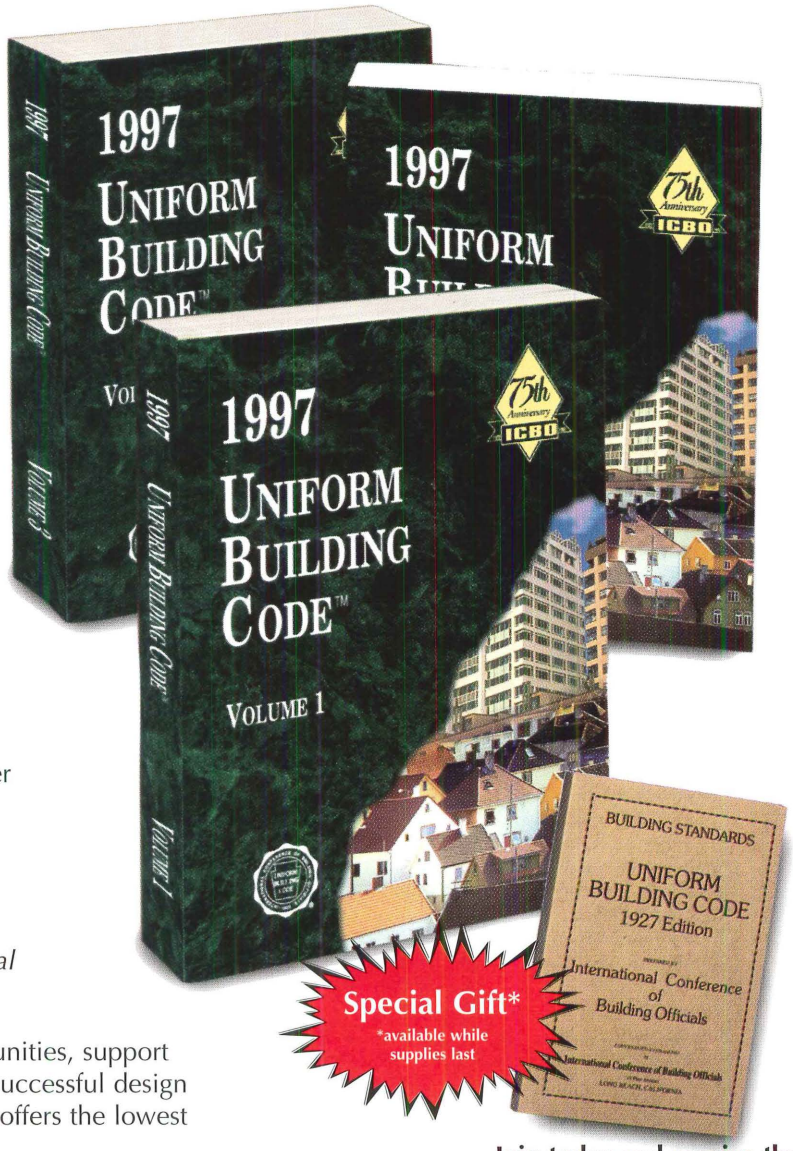
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PRODUCT LITERATURE



Cast-iron stairs

An eight-page catalog provides dimensional details and information on circular stairs, a space-saving way to access lofts and cellar levels or to reach a second-floor space from the outdoors. Steps, risers, and railings are made in ornate Victorian designs. 800/461-0060. Steptoe & Wife, Toronto. **CIRCLE 275**

Romance of Italian tile

The Craft of Tile Making in the Emilia Romagna, a 22-page booklet, discusses the origin of certain distinctly Italian historical design trends, shows both handcraft and high-tech production facilities, and explains the unique features of modern Italian tile. No charge. Tile Heritage Foundation, Healdsburg, Calif. **CIRCLE 276**

Grout-color guide

A pocket-size chart holds true-to-life, textured swatches of all 27 Renaissance grout colors and describes installation systems on a good-better-best basis. 800/243-4788 x235; www.laticrete.com (Web page). Laticrete International, Inc., Bethany, Conn. **CIRCLE 277**

Building-code library

The 1996 BOCA National Building, Fire Prevention, and Property Maintenance Codes have been computerized to provide reviewers, architects, and code officials quick access to any topic. Available in two formats—3.5-in. disk (sections or the entire code) and CD-ROM (entire code only)—the software offers such features as sticky notes for adding on-screen text, and highlighters for marking related sections for quicker access. All programs are Windows based; a demo can be downloaded from www.bocai.org (Web page). To order, call 708/799-2300, x242. BOCA, Country Club Hills, Ill. **CIRCLE 278**

Pine floor tips

A 20-page *Guide to Southern Pine Flooring* shows the patterns and grades of flooring available and discusses installation, finishing, and floor maintenance. www.southernpine.com (Web page). Southern Forest Products Association, Kenner, La. **CIRCLE 279**

How to beat mildew

A manual prepared by environmental engineers CH2M Hill and the Disney Development Company gives tips on how to significantly reduce the incidence of moisture and mildew in a structure to avoid possible indoor-air-quality problems. Suggestions cover each stage of design and construction, and should not add extra cost to a project. Binder price is $70. To order, call 407/423-0030. CH2M Hill, Orlando, Fla. **CIRCLE 280** ■

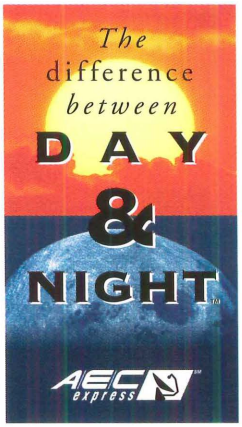
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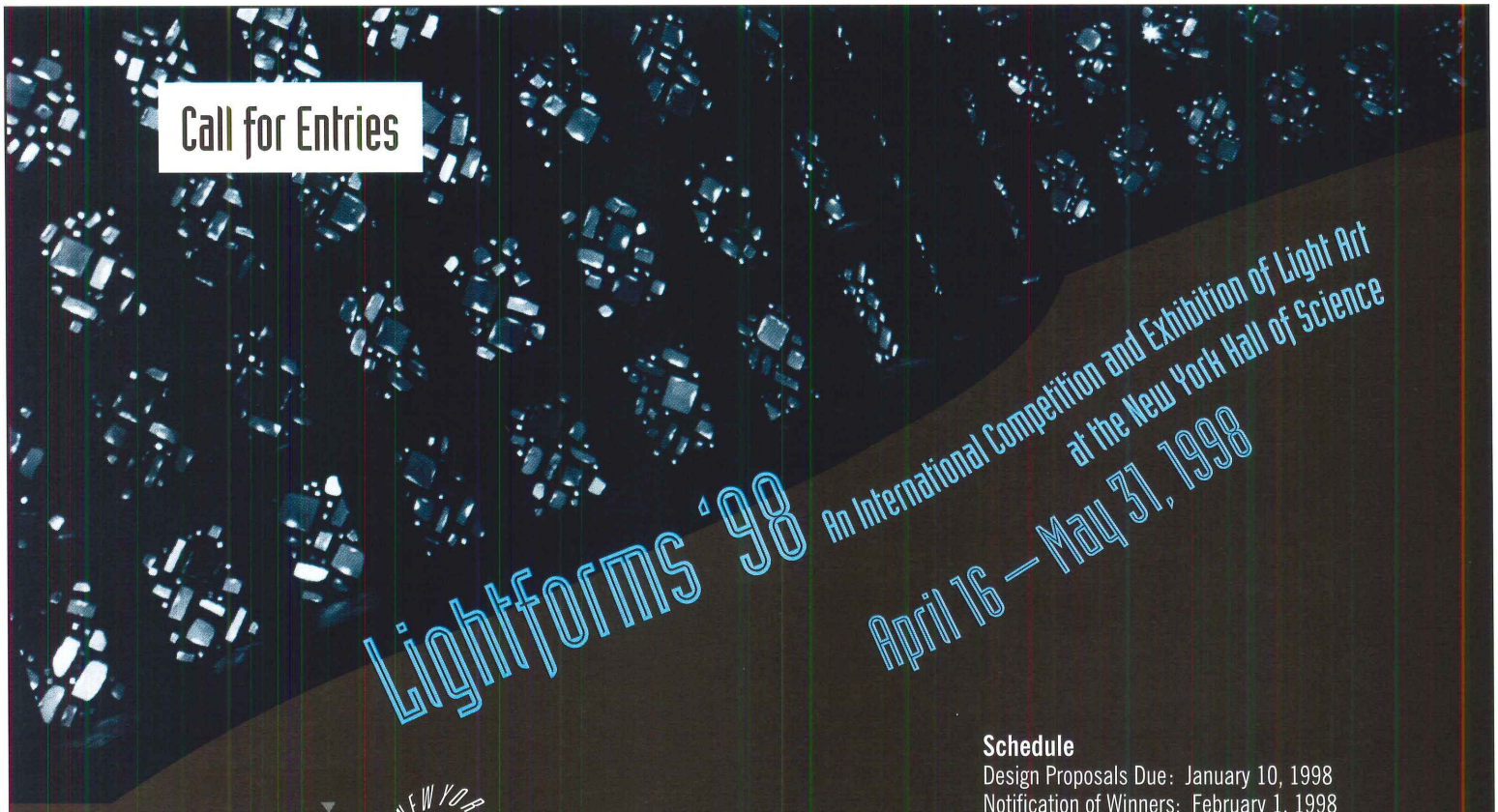
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AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

◆ Read the article "The Architecture of Cyberspace" (pages 139–42) using the learning objectives provided to focus your study.

◆ Complete the questions below, then check your answers (top of page 192).

◆ Fill out the self-report form on page 192 and submit it to receive two AIA Learning Units.

—Mark Scher, AIA Director Professional Education Products and Services

Questions

1. How might VRML and World Wide Web technologies limit liability, lower labor costs, and improve client satisfaction?

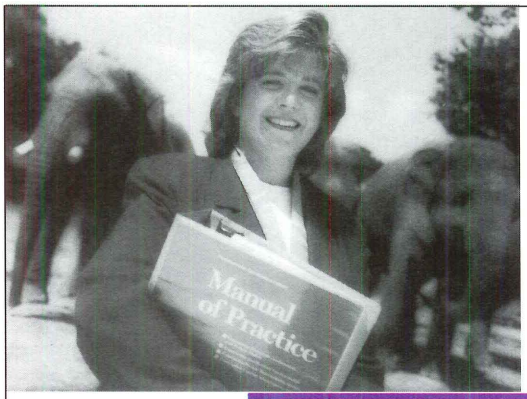
2. Describe three challenges in using a Web site for A/E collaboration.

3. Describe a "cyberarchive" and how it contributes to a project.

4. What lessons did the teams from MIT, Kumamoto University, and Kyoto Institute of Technology learn about the importance of process in on-line, geographically distributed design collaboration?

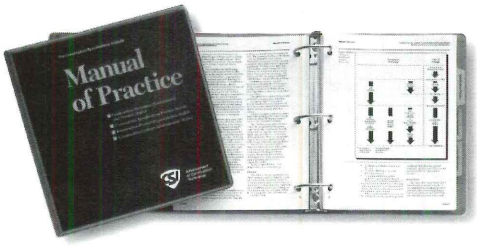
5. Identify two reasons why video conferencing may not live up to expectations as a communications tool for international collaboration.

6. List two ways to improve the use of E-mail on long-distance projects.



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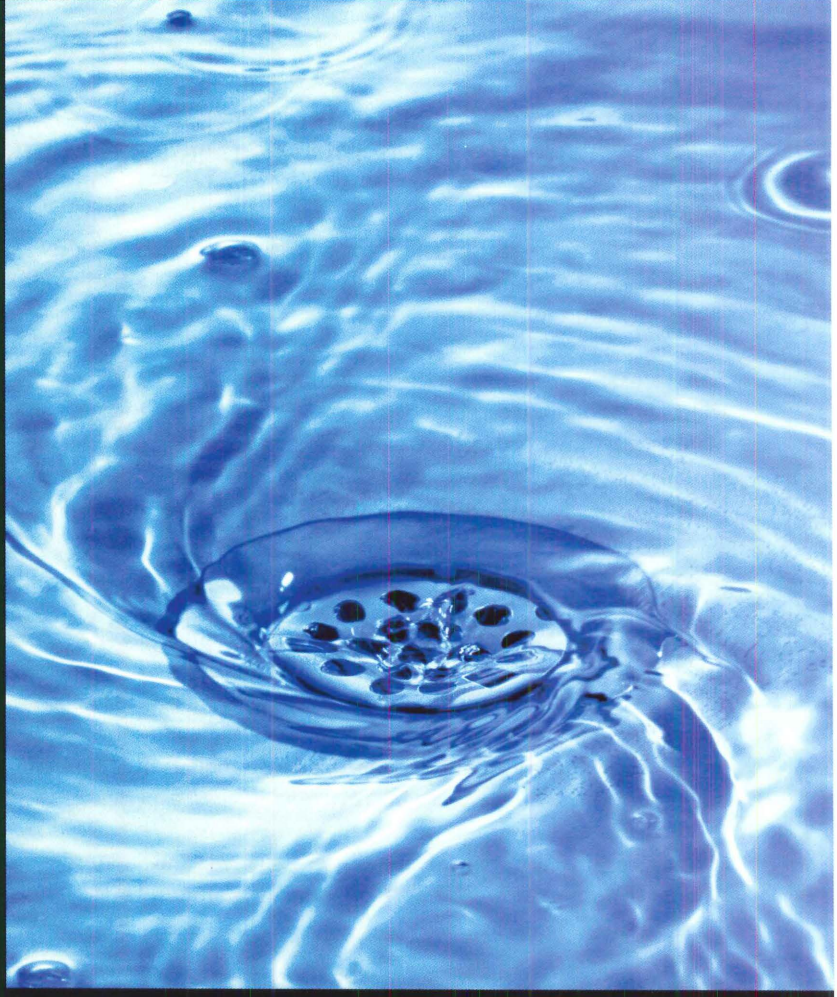
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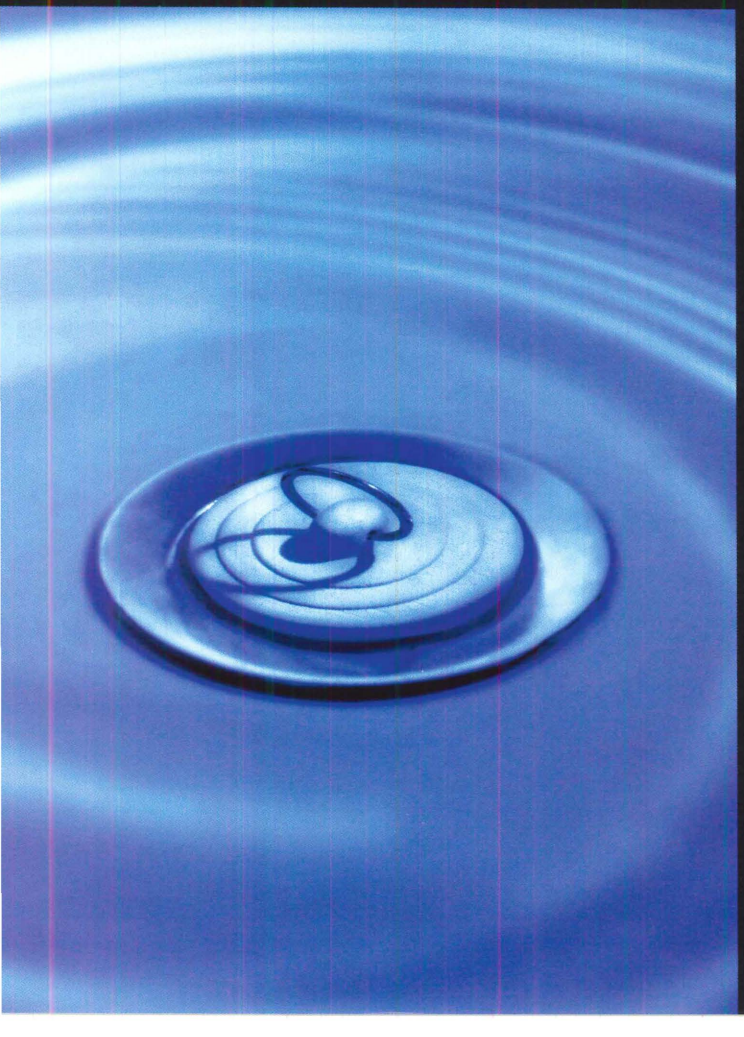
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AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

ANSWERS

Answers refer to the article "The Architecture of Cyberspace" (pages 139–42). The questions appear on page 190. To receive CES credits, fill in the self-report form below.

1. A virtual model posted on the World Wide Web is accessible to a wider choice of fabricators and more competitive pricing. Risk management may be improved by having dimensional data taken directly from virtual models, reducing possible miscommunication and faulty interpretations that occur through shop-drawing review. A virtual model accessible from client offices can keep clients in touch with model updates and provide a greater sense of realism.

2. A World Wide Web site may need to manage the huge quantities of project-related materials. The Web site usually functions with a database approach including filing, indexing, and retrieving multimedia information across what can be large distances. Another element in a collaborative Web site strategy may be the need to accommodate user groups of different cultures who have varying needs and levels of experience.

3. As used by teams from the University of California and Stanford University, a "cyberarchive" is a system for maintaining and saving design information in an electronic format. A user requests data by discipline, level of detail, and design phase through the World Wide Web. The system creates a customized Web site archive from the query results, making the project data available for specific uses. It may be especially useful during construction and facility management.

4. The teams tried at least two different approaches. One group assigned different parts of the design concept to different members of the team. Another group used a relay approach, passing the project from member to member as it evolved. The success of the project depended more on agreement about which process to use than on the approach itself.

5. Videoconferencing, which allows participants to transmit shared ideas and discussions and to see and hear other groups and individuals despite geographical separation, holds promise. However, spoken-language difficulties and different time zones were found to limit the usefulness of real-time videoconferencing in the MIT and Japanese school projects.

6. E-mail collaboration is strengthened when users develop a shorthand for abstract and complex design ideas and a system for acknowledging receipt of messages. Coupling E-mail with electronic whiteboard technology to share ideas and sketches further enhances long-distance communication. A social bond can result from an understood electronic vocabulary and can contribute to the success of the project.

AIA/CES SELF-REPORT FORM

(Use to report learning units earned for Architectural Record only.)

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Program/project title: Architectural Record (11.97)

☐ "The Architecture of Cyberspace" (pages 139–42)

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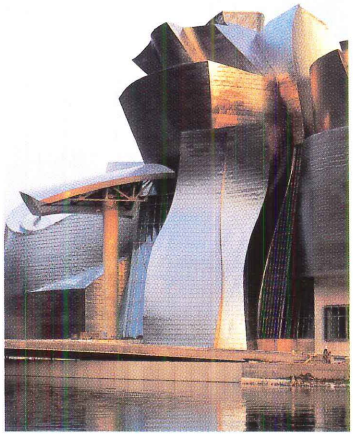
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IRCLE 88 ON INQUIRY CARD

(Letters, continued from page 26)

My compliments to Jeff Goldberg, especially, for the most spectacular photographs to appear in your magazine in years.
—Steve Schuller
via E-mail



I applaud Gehry's design of the Guggenheim Museum Bilbao. However, I am professionally amused at the article's undertone defending Gehry's ability to have his projects come in on time and within budget. Since the article does not have a project schedule, I can only assume this building was constructed on schedule.

However, within the budget? Although I (and I am positive thousands of other practicing architects) have never been fortunate enough to design a project that cost $389 a square foot, I have to note that this princely sum was attained after the project's size was reduced by 33 percent. I have fought many a budget battle, but never one where the client reduces the programmed space by 33 percent in order for the project to meet the budget. No wonder Thom Mayne said, "Will I ever find such a client?"
—Peter Krawchyk, AIA
Chapel Hill, N.C.

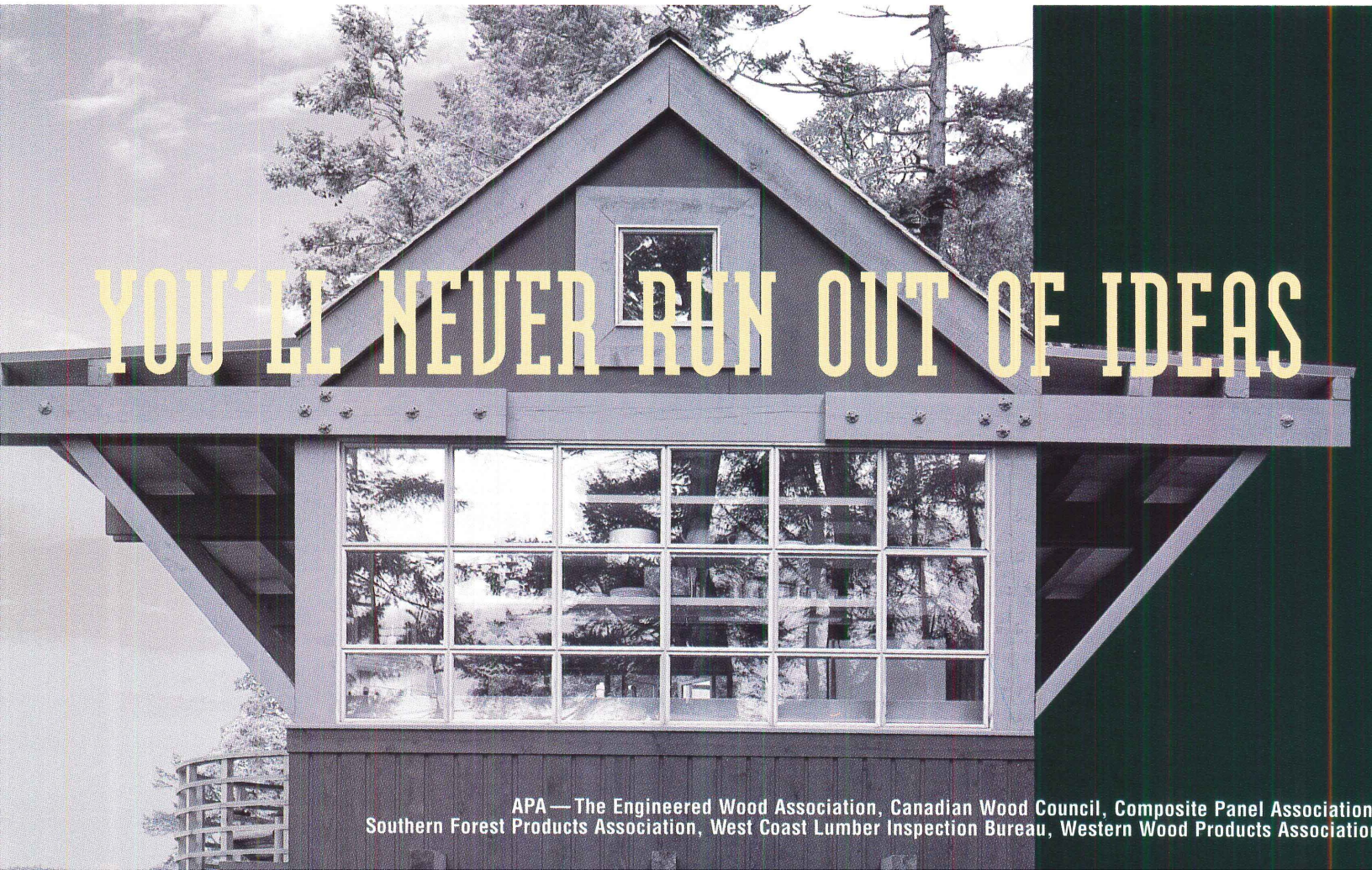
Cyber thoughts

It was with great interest that I read Robert Ivy's editorial, "Witnessing the Birth of the Cyber Age," in RECORD's August issue [page 9]. The editorial covers a topic that is all too infrequently discussed, given the tremendous impact it is having on our professional and personal lives. There seems to be an endless stream of articles on the latest innovations in hardware, software, graphics, and associated gadgets. Pensive words evaluating the global impact and value of the cyber world are all too rare.

With the generation gap so strongly felt in our offices (staffers often seem to speak a different language than principals and job captains), the proliferation of do-it-yourself 3D CADD for homeowners, the impact on presentations and other issues, the architectural cyber age is here with a bang, but without the appropriate dialogue to help us make the transition to an age that seems to have arrived so quickly.
—Thomas L. Grassi, AIA
Dumont, N.J.

I share the thoughts Ivy expressed about technology and its evolving impact on our work as architects. I am a principal of a Mexican company that has been providing support services to American architectural firms since 1995. I was pleasantly surprised to read in Ivy's editorial of the architectural process in the cyber age: "One firm produces its designs by the San Francisco Bay, zaps the data to Mexico for construction documents, then blasts them eastward toward construction projects in Japan." He describes exactly the kind of work done by my office.

Thanks to the advantages of communications technology and Mexico's low-cost labor, many architects in the U.S. have found this arrangement to be very appealing. It results in business opportunities for architects in both countries.
—German Noreiga, Architect
Consultoria y Diseno
Hermosillo, Sonora, Mexico



Kudos for RECORD

I would like to congratulate you on your magazine. In my country, there are very few architectural publications as highly appreciated as yours. Your presentation of information and new ideas and developments by the best-known architects is magnificent.

—Luis Alberto Barria
Panama City, Panama

Theory and practice

Robert Ivy's editorial in the September issue of RECORD [page 17] was very thoughtful and provocative. Yes, I also subscribe to the belief that theory (there must be a better term—theory suggests things like $e=mc^2$!) is important to the growth and creativity of architecture.

However, I disagree that theory is important only as an academic exercise. The best theories in architecture have *always* been buildable. Mies struggled to find the best way to build, and in the process he developed an extremely valid philosophy that echoes in academic halls and offices even today. And think of Palladio!

In pure science, theories that go nowhere are at least tested by the scientific method. Theories in architecture that go nowhere are usually divorced from practical application; consequently, they remain untested and must be judged irrelevant.

—James A. Gresham, FAIA
Tucson, Ariz.

Your editorial on theory and practice is I think very important. Architecture to me is about transcendence and transformation—without leaks! I think this is a critical time both for educators and practitioners. We have new possibilities and of course with that come new responsibilities.

—Cynthia Weese, FAIA
Dean, School of Architecture,
Washington University
St. Louis, Mo.

The next Reston

From all appearances, the new city of Modi'in, designed by architect Moshe Safdie and now taking shape in Israel [August, page 34], promises to be the Reston of greater Israel. Hopefully, RECORD will present the project in greater detail after its completion. Perhaps it can serve as an example to America, where government efforts to build housing for all of our citizens are thwarted, I believe, by a Republican agenda.

The reference to Israel as a "construction-happy nation" in RECORD's news article on the project suggests misplaced envy.

—Frederick A. Lee, RA
New York, N.Y.

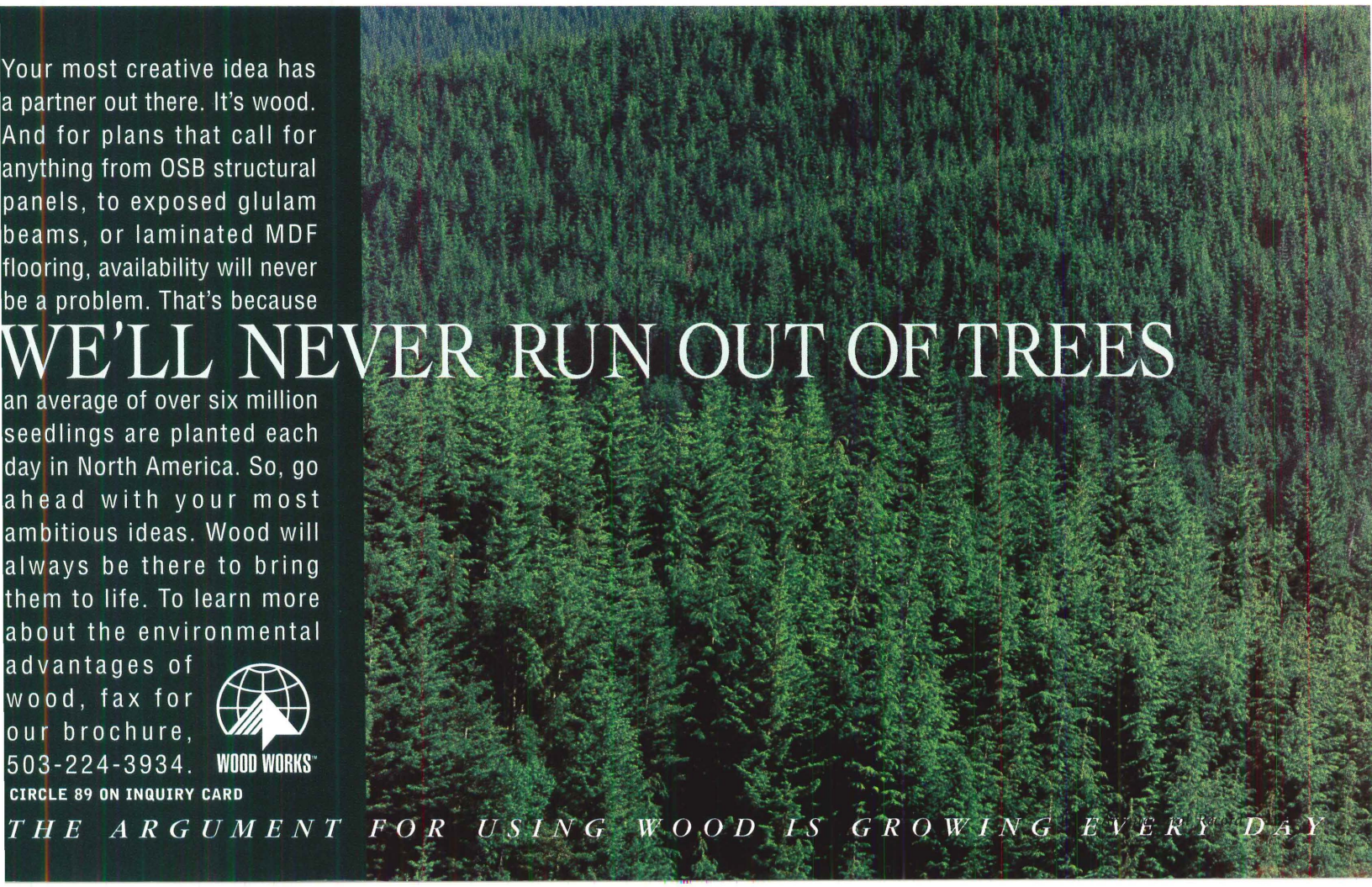
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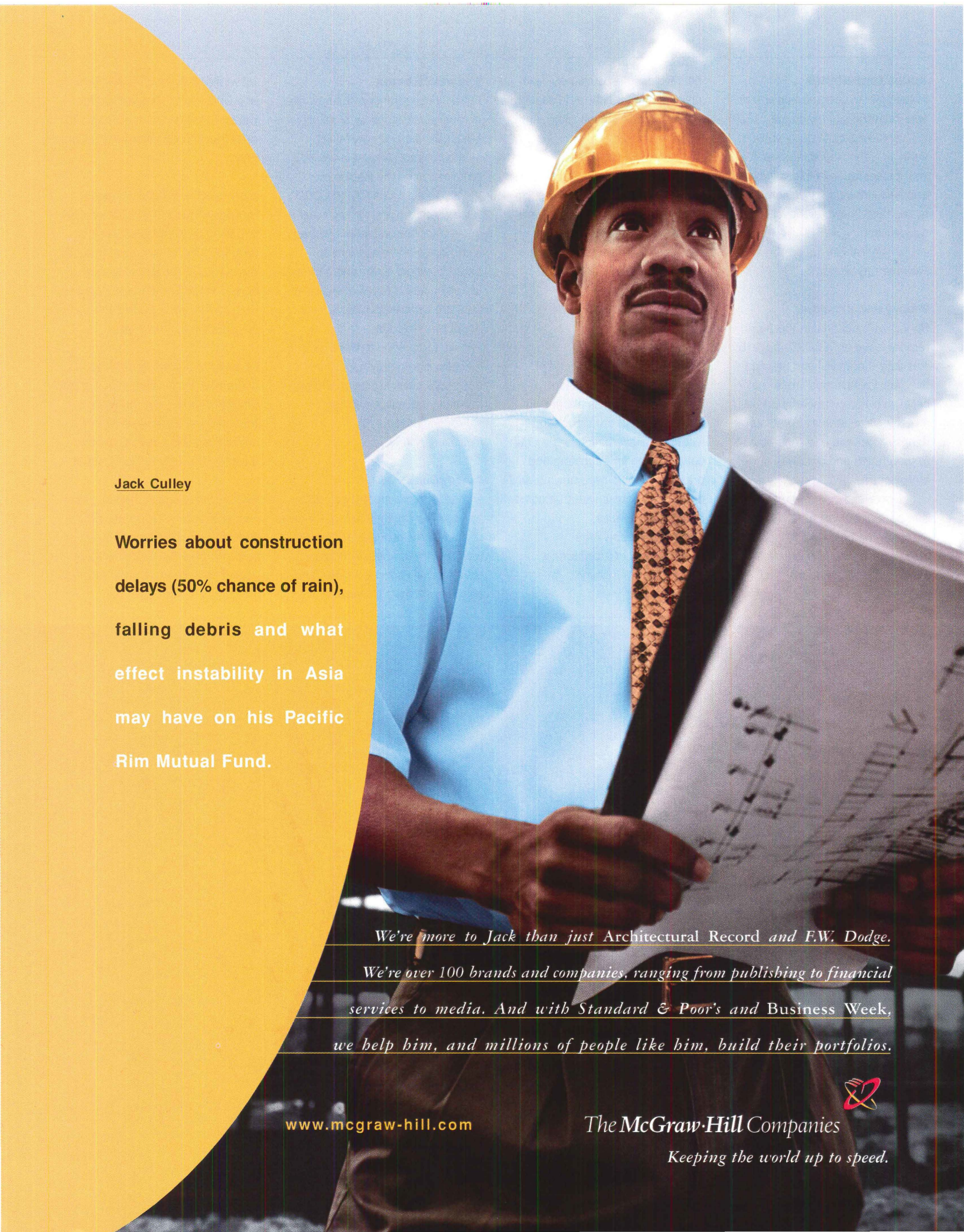
An August news story [page 38] failed to identify the student winners of the ACSA/Otis Elevator competition. They were Augusto Roman Moncagatta, Federico Pastor Soto, and Sharif Kahatt Navarrette of the Universidad Ricardo Palma, Peru; and Giovanni de Benedittis and Giovann Palermo, of the Università degli Studi "G. D'Annunzio" Pescara, Italy.

The project credits for Antoine Predock's Music Center, University of California, Santa Cruz [August, pages 72–75], should have included the names of the following members of Predock's team: W. Anthony Evanko, AIA, and Geoffrey Beebe, AIA, associates in charge.

Contrary to a news item in the September issue [page 37], it is the *Chicago Tribune,* not the Tribune Tower, that celebrates its 150th anniversary this year. The Tribune Tower itself is only 72 years old. ■

RECORD may edit letters for grammar, style, and space availability, taking care not to change the author's meaning. Letters sent by post or electronic mail must include the sender's address.




Jack Culley
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(continued from page 107) be quite so romantic as Wright. He wisely abstracts his stone as a checkered quilt of panels separated by open joints. Meier says he wanted a signature stone, one you'd identify with the Getty, the way red sandstone becomes a symbol of Arata Isozaki's Museum of Contemporary Art in downtown Los Angeles. He succeeds.

The biggest issue at the Getty is one that goes beyond architecture and has nothing to do with Meier. Should the Getty, which congratulates itself on its outreach programs, have consolidated itself into this elite monastic hilltop campus, this Mount Athos of art? Christopher Alexander says somewhere that an American college in an idyllic rural setting will always feel like a high school because the students, not being physically part of the larger community, can never feel like citizens or, therefore, like grown-ups. What if the Getty, instead, were integrated into the city, like an Oxford or a Harvard—fully itself at the center, but mingling into its surroundings at the edges? Wouldn't everybody benefit? Won't the staff get tired of meeting at the cafeteria? Wouldn't a bigger schmooze pool be more stimulating to them?

And in spite of a nearby bus stop, the Getty is hopelessly car-dependent: another gated community. It seems safe to predict the visitor parking and the access tram will be hopelessly oversubscribed in the early months after the public opening; reservations will have to be made long in advance. Worse yet, on this site the Getty can never legally expand. A setting in the city would have allowed for inevitable growth and change. The Getty's huge financial investment, by attracting further development around it, might have spun off some benefits for someone besides itself. The choice of site is an expression of institutional ego and self-importance.

But, as noted, that's not the architect's fault. Meier is a perfectionist sculptor of light and space, a great fan not only of the early modern movement, but also of Borromini and of the central European Baroque. You hire him, you know you're going to get that. You know the minuses: everything will be so perfectly detailed that the first time anyone picks up a hammer to make a change, the result will look as messy as muddy tracks on virgin snow.

You also know the pluses. The Getty is a textbook of ways to embody light in architecture. Like Rudolf Schindler in this same sunny climate, Meier employs stepped forms and cantilevers to model light and shade. Stairs and canopies, clipped on the outside of the main masses, cast intricate patterns of shadow. Curved surfaces are crescents of light. Transparencies create luminous collages. Long views are framed in white tracery. Sometimes the light is so tangible it seems to be a volume inside a space, pushing out, rather than the reverse. The dark painting galleries, so un-Meierlike, only make the light more magical when you emerge from them. It's all very accomplished and, at the scale of each separate initiative, it's often very beautiful.

Which brings us back to where we started. The English poet Coleridge offered a famous definition of poetry as opposed to prose. Poetry "is discriminated by proposing to itself such delight from the *whole,* as is compatible with a distinct gratification from each component *part.*" The Getty is poetry in its insistence on gratifying us with each part, each architectural rhyme and image. But the whole is less happy. We've got an anthology, not an epic. The Getty is like a pile of marvelous white Richard Meier houses, dropped helter-skelter from a helicopter onto the site. That's no bad thing. But it's a step short of the masterpiece we all, probable unfairly, hoped for from this client, this program, this architect. ■

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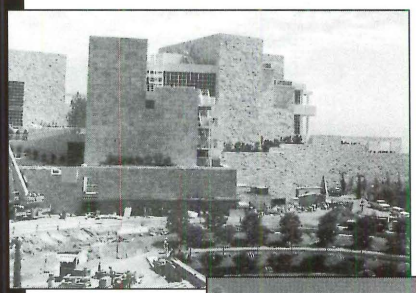
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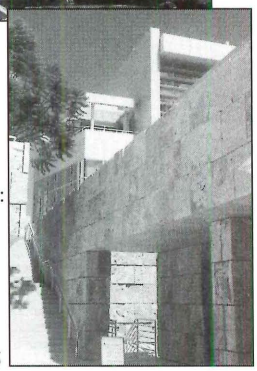


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(continued from page 55) thinker. The exhibition gathers together some 500 examples of his work, including drawings, models, books, and photographs. Call 514/939-7000.

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(including computer renderings), representing proposed buildings, interiors, or architectural environments. Winning entries will be presented in a traveling exhibition that will open in Atlanta in 1998 in conjunction with the ASAP's national convention. Entry deadline is January 16, 1998. For more information on the competition or ASAP membership (a requirement of entry), write Architecture in Perspective 13, Alexandra Lee, Executive Director, American Society of Architectural Perspectivists, 52 Broad Street, Boston, Mass. 02109; call 617/951-1433 x225; or fax 617/951-0845.

The **Tile Promotion Board's Spectrum International Ceramic Tile Design Competition** honors creative excellence in residential and commercial ceramic tile design. Architects, interior designers, contractors, builders, retailers, manufacturers, distributors, and others who have influenced the specification or installation of ceramic tile may enter projects completed between January 1996 and December 1997. Submission deadline is January 31, 1998. Winners will be announced during the International Tile & Stone Exposition's All-Industry Awards in Orlando, Florida, next April. For more information, call the Tile Promotion Board at 800/495-5900 or 561/743-3150; fax 561/743-3160.

The competition for the **$20,000 James Harrison Steedman Traveling Fellowship** for study/travel abroad is geared to the theme of "water and ground." Candidates must have received a professional degree from an accredited architecture program no earlier than 1989 and must be working for an architectural firm or have at least one year of practical experience. Contact Steedman Governing Committee, Marianne Pepper, Washington University School of Architecture, One Brookings Drive, St. Louis, Mo. 63130; call 314/935-6293; or E-mail Steedman@arch.wustl.edu/steedman/.

An international, open competition is being held for the design of the **Office for the Fundacio Mies van der Rohe, Barcelona**. Sponsored by the Barcelona City Council, Editorial Gustavo Gili SA, and the Fundacio Mies van der Rohe, it is open only to architects under 40. The competition is for the design of the foundation's headquarters and proposes as its design theme a building linked to the pavilion designed by Mies for the Barcelona Exposition in 1929. The brief includes a multipurpose hall, an auditorium, and areas for management, administration, and archives. Deadline for registration documentation is November 15; submission deadline is March 31, 1998. To register, write Editorial Gustavo Gili, Rossello 87–89, 08029 Barcelona; call 343/430-5435; or fax 343/430-4653.

Upcoming deadlines for the **1998 AIA Honors and Awards** program are as follows: Young Architects Citation (nomination by AIA component required), submissions due November 21; Architecture Firm Award, Henry Bacon Medal for Memorial Architecture, Institute Honors, Thomas Jefferson Awards for Public Architecture, and ACSA/AIA Topaz Medallion for Excellence in Architectural Education, submissions due December 12; Honorary Memberships (nomination by national board member required), nominations due December 19; AIA/NCMA Design Awards of Excellence, entries due January 16, submissions due February 20. For more information, call Robin Lee at the AIA at 202/626-7390.

Please submit information for exhibitions, conferences, and competitions at least six weeks prior to publication date. ■

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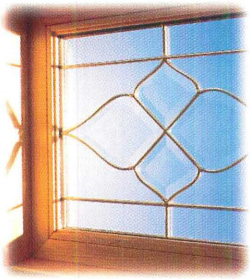
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2. Publication number: 132-650
3. Date of filing: October 1, 1997
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6. Annual subscription price: $59.
7. Complete Mailing Address of Known Office of Publication: 1221 Avenue of the Americas, New York, NY 10020.
8. Complete Mailing Address of Headquarters of General Business Offices of the Publisher: Same as above.
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor: Publisher: Elaine Shusterman, 1221 Avenue of the Americas, New York, NY 10020; Editor: Robert Ivy, FAIA, 1221 Avenue of the Americas, New York, NY 10020; Managing Editor: Kate Norment, 1221 Avenue of the Americas, New York, NY 10020.
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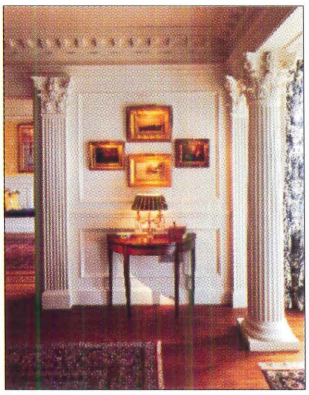
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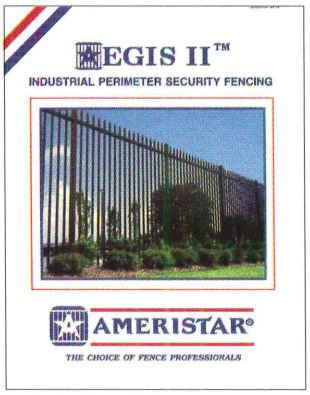


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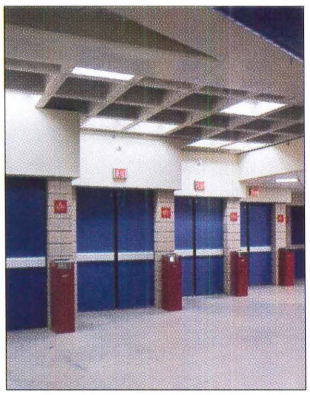


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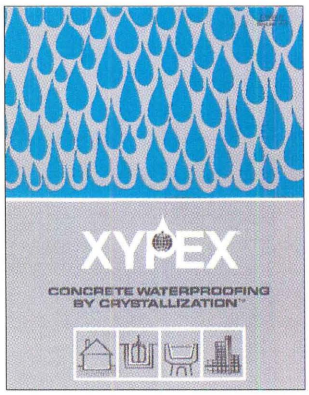


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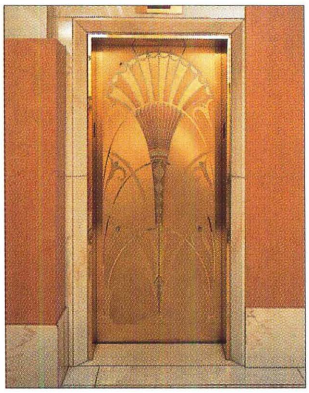


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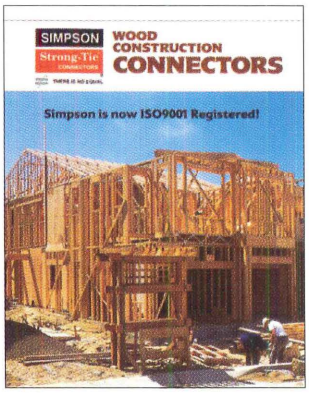


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12 New Products Featured in 1997 Catalog



12 new products are introduced in Strong-Tie's '97 catalog, Wood Construction Connectors. A necessary reference for structural engineers, building officials, & architects, it includes updated specs, load charts, application drawings, & building code acceptance–plus info on holdown anchorage design, & avail. custom hanger options. IS09001 Reg. For 1997 catalog (C-97), write POB 10789, Pleasanton, CA 94588

Simpson Strong-Tie

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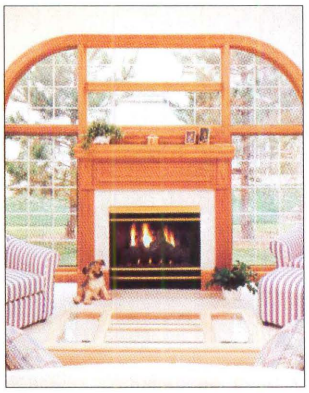


A full color catalog will explain the different Handy-Shield safety covers offered for the new or retrofit projects that need to comply with the American Disabilities Act. The specific use, sample specifications, drawings and color choice are all summarized in this easy to understand catalog. (800) 475-8629.

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New Fireplace Tested as a Wall Furnace

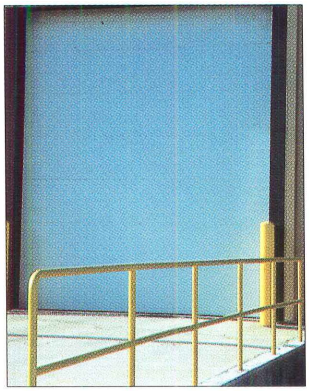


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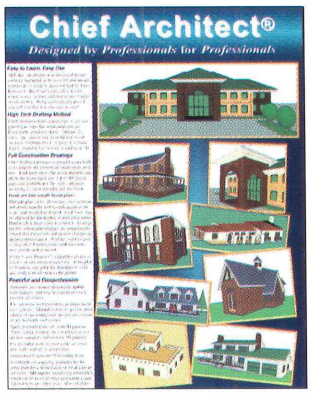


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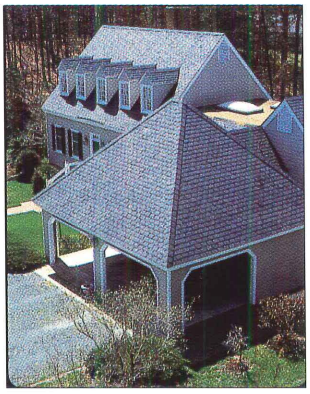


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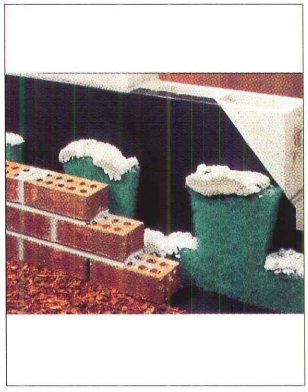


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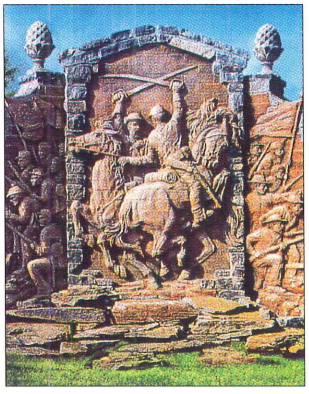


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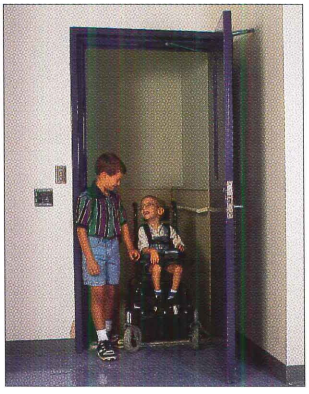


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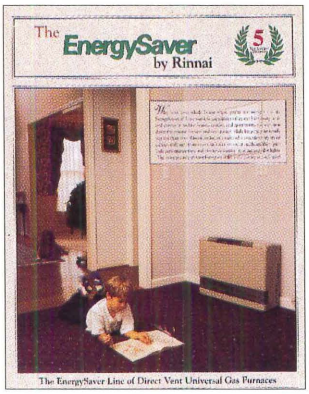


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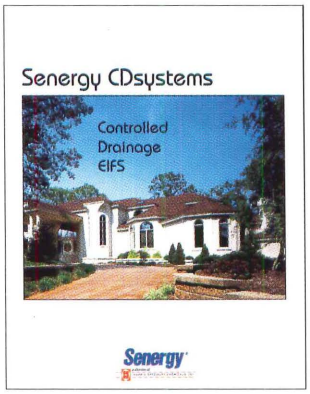


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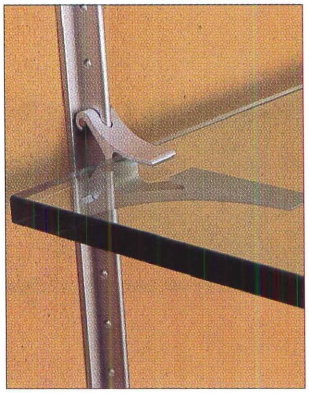


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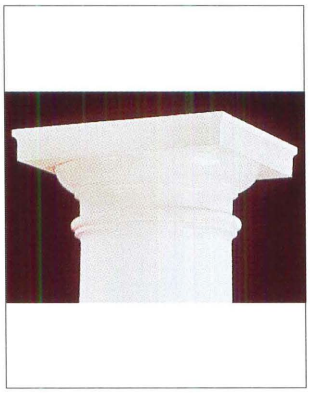


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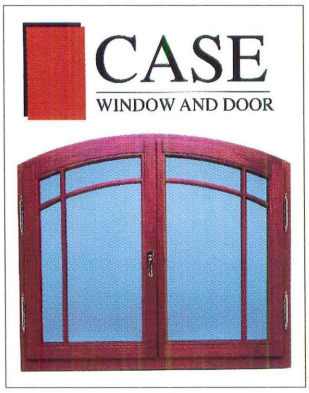


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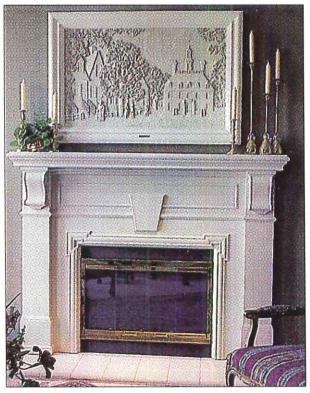


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Case Window and Door

CIRCLE 171 ON INQUIRY CARD

MantelartTM Fireplace Systems

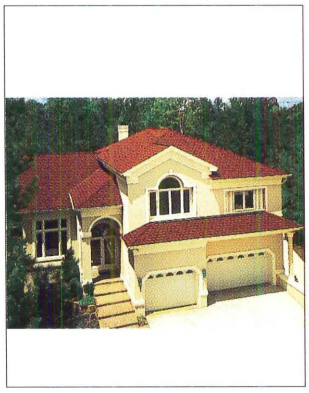


Detailed to perfection, an elegant one-piece cast stone mantel forms the foundation of this striking fireplace. Adding a truly distinctive touch, a Brickstone Studies Limited Edition Mural crowns the mantel. Choose from several styles available through our dealer network or direct from Brickstone Studios. For the ultimate in exceptional fireplaces call Brickstone Studios (800) 449-6599.

Brickstone Studios

CIRCLE 172 ON INQUIRY CARD

Carriage House Shangle



Utilizes CertianTeed's exclusive Super Shangle® construction with two full-size base shingles, resulting in virtually four layers of shingled protection and 8-inch exposure when applied. This super-heavyweight shingle (355 lb per square) also features a unique chamfered cut for scalloped appearance. Fiber glass composition. UL Class A. Lifetime limited, transferable warranty. Algae-resistant. Meets ASTM D3462 Tear Strength.

CertainTeed Corporation

CIRCLE 173 ON INQUIRY CARD

Wood Products Promotion Council



A brochure produced by major N. Amer. wood products trade associates highlights the many environ. benefits of wood. The brochure, titled "You'll never run out of ideas, we'll never run out of trees," offers info on reforestation, efficient use of nat. resources, recycling, energy use & other environ. issues for architects, engineers, builders, remodelers, furniture manufacturers, & retailers. For a free copy of the brochure, fax Wood Works at (503) 224-3934.

Wood Works™

CIRCLE 174 ON INQUIRY CARD

Decorative, Thin-Film Intumescent Fireproofing

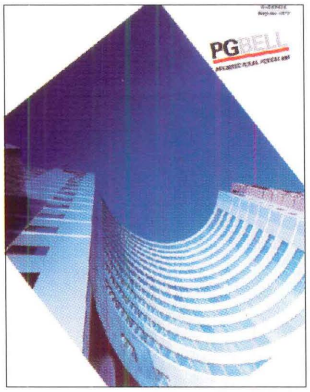


Certified for beams & columns for ratings up to 3 hrs.! A/D Firefilm permits the designer to use the appearance of exposed steel with the steel fully protected from fire. Applied as a thin-film coating 0.4 to 3 mm (0.02 to 0.12 in.) thick. During a fire it expands to form a meringue - like layer up to 100 mm thick. The topcoat is avail. in a wide choice of colours. 416-292-2361. 1-800-263-4087

A/D Fire Protection

CIRCLE 175 ON INQUIRY CARD

PG Bell Porcelain Meets Your Budget

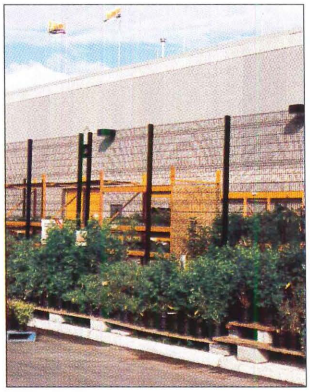


Competitive pricing is only one benefit of cladding with porcelain enamel. Complete color and gloss retention contribute to the unsurpassed longevity that porcelain provides. With the ability to hold the tightest curves, complex forms are only limited by your imagination. Call Jennifer for your free CAD details on disk. PG Bell Architectural Porcelain 800-663-8543.

PG Bell

CIRCLE 176 ON INQUIRY CARD

Fence Systems

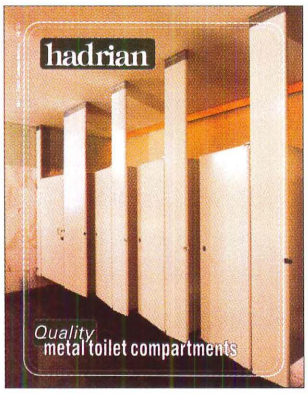


This new aesthetically appealing Euro-design fence system combines see-thru good looks with strength and durability of 6-gauge galvanized steel mesh. Powder-coated in a large variety of colors to suit any design & enhance the appearance & security of any property it surrounds, this fence system is virtually unclimbable, rugged maintenance-free and easy to install. 1-800-836-6342. www.maniacom.com/omega.html

Omega Fence Systems

CIRCLE 177 ON INQUIRY CARD

Hadrian Toilet Compartments



Hadrian's double pan panels & doors are honeycomb-cored for impact resistance. Available in anti-corrosion zinc-coated Galvanneal sheet steel or Stainless Steel, panel parts are permanently sealed for strength & hygiene. Eighteen standard colors in easy maintenance powder-coated polyurethane, plus graffiti resistant textured finishes. Door latch meets handicapped requirements. Call 216-974-7120 F.1-800-536-1469

Hadrian Inc.

CIRCLE 178 ON INQUIRY CARD

Pan-Tech



manufactures composite building panels in a variety of different face materials and finishes. Aluminum: two, three and four coat Kymar finishes, anodized, colour & brushed. Stainless Steel: 304, 316 grades, #4, #8 finish, coloured stainless and patterned. Zinc: Rheinzink preweathered. Porcelain: for Spandrel applications. Copper: prepatinated.

Pan-Tech, Inc.

CIRCLE 179 ON INQUIRY CARD

Interior Components

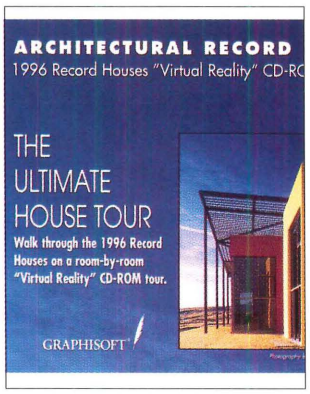


Design I is our new 60 page catalogue showing architectural components with existing molds, including columns, capitals, domes, moldings, light coves, ceiling & wall panels, etc. All items available in Formglas G.R.G. (Gypsum), QuarryCast® and MetalCast®. Request our printed version or, view our web site: http://www.formglas.com Tel: 416-635-8030 Fax: 416-645-6588 Email: djohnson@formglas.com

Formglas Inc.

CIRCLE 180 ON INQUIRY CARD

Record Houses "Virtual Reality" CD-ROM

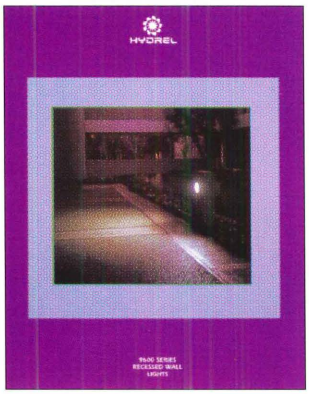


A room-by-room tour, with architects discussing their creative and product decisions. Click and zoom and move around objects via QuickTime©VR. Architectural Record worked closely with Graphisoft©, using ArchiCad©, to produce an interactive CD-ROM house tour that includes photos and excerpts from the articles from the April '96 issue. For Windows and Mac. $19.95. Record Houses CD-ROM, Rm 1448, 1221 Ave of the Americas, NY, NY 10020.

Record Houses

CIRCLE 181 ON INQUIRY CARD

Avoid Annoying Glare 10 to 1 MH spacing

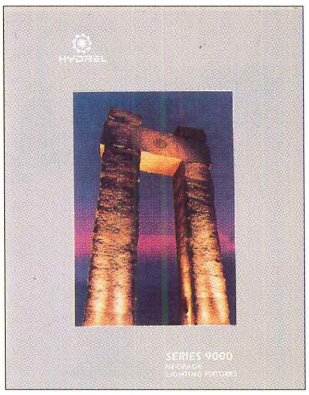


Hydrel's new 9600 Series Recessed Wall-Step Lights with improved beam patterns and unique internal glare control achieves remarkable 10 to 1 mounting height to spacing ratio. Patented sealing technology and modular construction provide air cooling for reduced size and simple installation/maintenance. Up to 100 watts HID. Hydrel, Sylmar, California.

Hydrel

CIRCLE 183 ON INQUIRY CARD

In Grade Up Lights



This 36 page catalog covers the new, innovative 9000 series Ingrade Lighting fixtures. See how modular design makes a difference in performance, installation, maintenance, and durability. Available in a variety of configurations, this series accepts lamps to 175W HID, 250W incandescent. Architectural and landscape illustrations include recommendations for the most common applications. Hydrel, Sylmar, California.

Hydrel

CIRCLE 182 ON INQUIRY CARD

Hanover Lantern Commercial Lighting

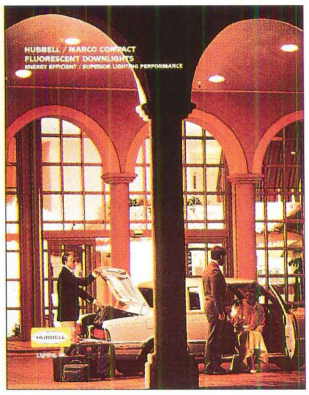


Hanover Lantern designs & manufactures high quality heavy duty cast titanium/aluminum commercial grade decorative lighting fixtures, poles & accessories. A selection of design styles, light source options, light distribution systems, mounting options, computer generated photometric data plus a custom design service are available to the architect or engineer. 470 High St., Hanover PA 17331. T: (717) 632-6464 F: (717) 632-5039

Hanover Lantern

CIRCLE 184 ON INQUIRY CARD

New Compact Flourescents

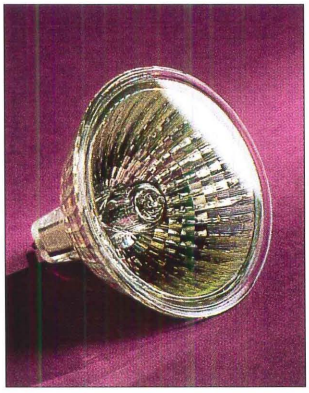


Save energy, create the right look. Hubbell Lighting introduces the easiest and most dramatic way to reduce energy costs and improve the esthetics of a room, office, or retail space. A complete line of compact flourescents and attractive trims feature the latest in efficient electronic ballasts combined with Triple or Quad lamp technology.

Hubbell Lighting, Inc.

CIRCLE 185 ON INQUIRY CARD

Ushio Ultraline™ 10,000 Hour MR-16 Lamps

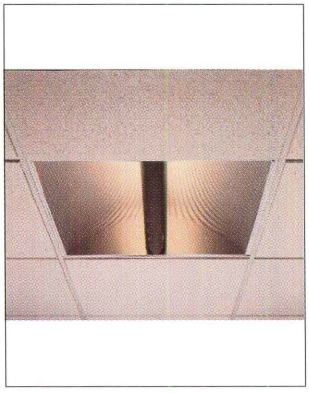


At 10,000 hours average–twice the life of standard MR-16's–the Ultraline's™ titanium reflector coating provides consistent color throughout the life of the lamp. Now with upgraded quartz burner, ultraviolet emissions are reduced at UVA, UVB and UVC wavelenghts. Medium and wide beam versions available: 35W and 50W. Product Inquiries: (800) 218-7446.

Ushio America, Inc.

CIRCLE 186 ON INQUIRY CARD

The "ID Series"

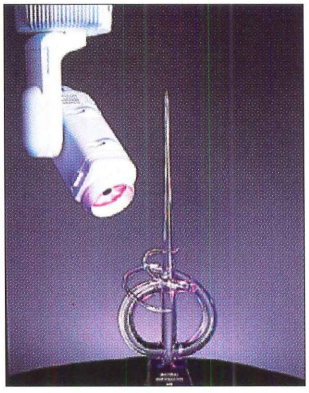


The "ID Series" is specifically designed for lighting Computer Environments with 8' ceilings where low reflector brightness is essential. Enjoy the comfort of indirect light with nothing below the ceiling plane. The precisely stepped and formed reflectors in our new "ID Series" provide revolutionary glare control. The 2'x2' and 2'x4' fixtures utilize efficient, long life 40, 50, or 55 watt Biax fluorescent lamps. Call (818) 579-0943.

Engineered Lighting

CIRCLE 187 ON INQUIRY CARD

The AR5 Interior Luminaire by IRIDEON

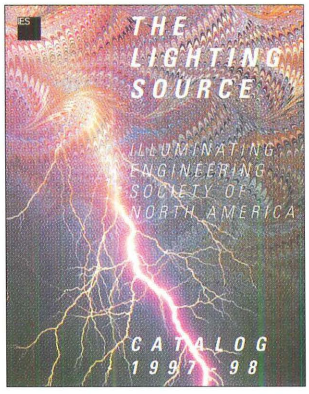


awarded Best New Product of the Year at Lightfair Int. 1996. It features a computer-controlled, dichroic color-changing assembly, robotic 360° pan & 270° tilt capabilities, & diffuser/douser option. Control is achieved w/ Irideon Composer™ Control System allows system config. & programming from a PC. Irideon, Inc. 201 Regal Row, Dallas, TX 75247. T: (214) 819-3208, F: (214) 630-5867. www.irideon.com

Irideon, Inc.

CIRCLE 188 ON INQUIRY CARD

Illuminating Engineering Society of North America

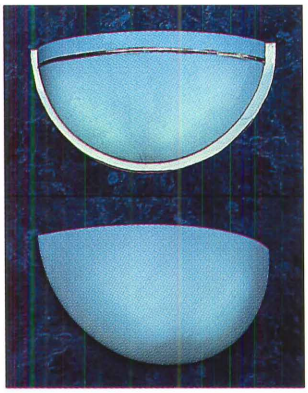


The LIGHTING SOURCE by the IESNA offers a vast selection of standards and publications for the lighting professional. The IESNA has 10,000 members and offers many benefits. If you wish to receive a complimentary copy of the catalog, please call Albert Suen at T: (212) 248-5000, F: (212) 248-5017, or e-mail bethbay@aol.com.

IESNA

CIRCLE 189 ON INQUIRY CARD

SHPERIS Wall Sconce

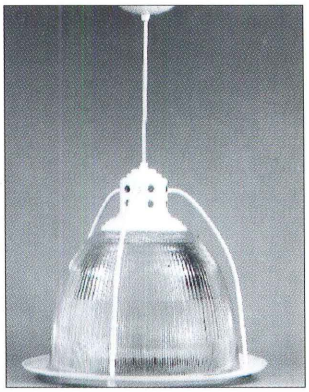


SPHERIS Wall Sconce provides direct/indirect lighting and an attractive luminous glow from a translucent faux alabaster diffuser. It is ADA compliant and available plain or with brass accents. Other finishes and white acrylic diffusers available. SPHERIS uses 2 PL-13 lamps or an Osram Sylvania DULUX F 36-watt fluorescent lamp. Excelite Inc., 4500 6th Ave., Altoona, PA 16602. T: (814) 943-1155. F: (814) 946-0157.

EXCELITE, Inc.

CIRCLE 190 ON INQUIRY CARD

Complete Light Distribution



The efficient, decorative fixture offers complete light distribution and can be ordered with an open or closed bottom. The metal finish is available in all colors and three sizes-12", 16", and 22" in diameter-can be specified. Light sources include incandescent, high pressure sodium, metal halide and compact fluorescent.

Primelite Manufacturing

CIRCLE 191 ON INQUIRY CARD

Sign Lights



Sign and task lights from Primelite. Incandescent, mercury vapor, high pressure sodium, metal halide, halo-gen, P.L. fixtures designed to fit your requirements. Full line of indoor and outdoor fixtures and posts. Send us your specifications. Primelite Manufacturing, 407 South Main St., Freeport, NY 11520 T.(516)868-4411, Fax: (516)868-4609

Primelite Manufacturing

CIRCLE 192 ON INQUIRY CARD

Lightframes Vertical Pendant

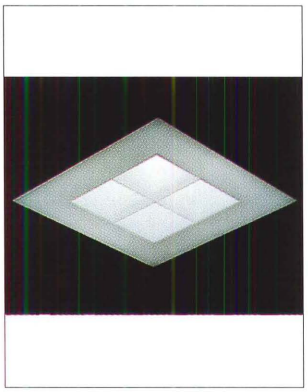


Add a bright new look to your installation. The Vertical Pendant offers a unique design and delivers high-tech performance lighting. Designed by Charles Loomis, the Lightframe Vertical Pendant provides a new direction in lighting -- functional style.

Charles Loomis, Inc.

CIRCLE 193 ON INQUIRY CARD

Recessed Compact Fluorescent Downlight



"FANCY FREE", the 1997 APEX lighting award winner. The concept of this new design was to create an aesthetic, 12" square recessed compact fluorescent downlight that eliminates the harsh visual contrast between the ceiling and the fixture aperture, and offers designers numerous variations in lighted appearance. At the heart of this innovation is the design of the translucent louver cell assembly. T: (718) 456-7400 • F: (718) 456-5492 • http://www.neoray.com

Neo-Ray Products

CIRCLE 194 ON INQUIRY CARD

Custom Lighting



Tivoli Industries, designer and manufacturer of a wide range of specialty and custom lighting products utilizing low and line voltage, including: Cove, decorative/performance illuminated ceilings, linear task/accent, tube aisle/step, topiary and landscape lighting products. Exclusively provides Targetti's high performance systems, including low voltage track, open conductor and truss support systems. 800-854-3288. Fax 714-957-1501.

Tivoli Industries, Inc.

CIRCLE 195 ON INQUIRY CARD

Cast Aluminum Lighting

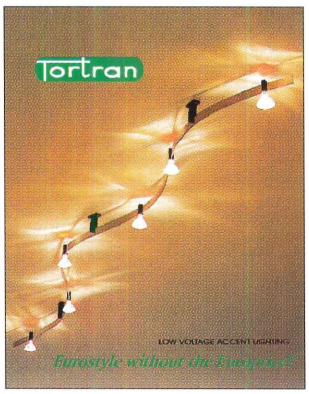


Sun Valley Lighting manufactures an extensive line of Standard & Custom cast aluminum lighting poles & fixtures in all period styles. Our 50 years of design & manufacturing experience provides you with unexcelled product quality. Our staff of designers, engineers, and tool makers are here to assist you. Our in-house foundry assures quality and prompt delivery at competitive costs.

Sun Valley Lighting

CIRCLE 196 ON INQUIRY CARD

Low Voltage Accent Lighting



Tortran, Inc. presents the EXO-TRACK™ low voltage halogen lighting system. Straight, rolled into circles, or shaped into undulating forms, the Exotrack provides accent and illumination for miniature chandeliers, exciting free-form sculptures, and can even be suspended in space. For more information call (203) 367-5188.

Tortran, Inc.

CIRCLE 197 ON INQUIRY CARD

OFFICIAL PROPOSAL

REQUEST FOR QUALIFICATIONS

To Develop a Ten-Year Master Plan For the Historic Washington, D.C. Union Station

The Board of Directors of the Union Station Redevelopment Corporation (USRC) has directed USRC to seek qualifications from interested firms to do a ten-year master plan for Union Station. October 1998 will mark the ten year anniversary of the redeveloped station. The Board wishes to ensure its continued success through the development of a master plan.

Union Station is a superbly restored historic mixed-use urban transportation center located two blocks from the Nation's Capitol building. The station serves as a hub for Amtrak, MARC Metrorail and Virginia Railway Express (VRE) trains. Approximately 70,000 people pass through Union Station daily and it is the second most used stop on the Metro with 21,000 passengers per day. In addition, Union Station is the most visited tourist attraction in Washington, D.C. Since the Station's redevelopment in 1988, over 4 million square feet of office space has been developed in the surrounding area.

Experienced master planners who wish to enter the competition to develop a master plan for Union Station must submit a letter of interest no later than December 1, 1997. Interested parties should contact:

Mr. David S. Ball, President
Union Station Redevelopment Corporation
444 North Capitol Street, N.W.
Suite 740
Washington, D.C. 20001
Telephone: (202) 906-4130
Fax: (202) 906-4133

TO ADVERTISE

Contact Cherie Jolley
T: (801) 974-2843 F: (801) 972-9409

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Address a separate envelope
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POSITIONS VACANT

ARCHITECTS

North Carolina Wants You!

Expanding Eastern NC E/A firm seeks motivated, long term career seeking Architects to join our family:

Buildings Group Leader; AIA, 10+ years experience, registrable in NC.
- PM and Design experience in one or more of the following sectors: commercial, educations, healthcare, governmental or industrial.
- Proven people management/teambuilding skills.
- Proven ability in business development/marketing.
- Proven P/L responsibility including budgeting.

Industrial Project Architect; AIA, 10+ years experience, registrable in NC.
- Proven track record of PM and Design experience for Industrial Facilities (expansions, renovations, master planning, process equipment layout, ADA, roofing, etc.).
- Strong interpersonal skills. Must have positive relationship with colleagues, clients, and contractors.

Contact: Tony Khoury, PE
The East Group
PO Box 7305
Greenville, NC 27834
(919) 758-3746
e-mail: tony.khoury@eastgroup.com

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Award-winning architectural design firm seeks highly motivated Architecture Interns and Graduates with 0 to 3 years experience. Wide range of project types include commercial, institutional, educational, civic and urban design projects. Seeking talented individuals with excellent design, graphic and communication skills. CAD experience a plus, especially ArrisCAD. Salary negotiable and commensurate with type and amount of experience. Mail resume to A. Keller, 1133 Connecticut Avenue, Suite 800, Washington DC 20036.

CITY URBAN DESIGNER
CITY OF WEST PALM BEACH, FL

West Palm Beach is seeking a motivated Urban Designer to lead the newly created Urban Design/Long Range Planning Division. The Division will staff the Downtown Action Committee (an advisory review committee for downtown), draft and enforce design guidelines for the downtown and other areas of the city, administer and propose amendments to the Comprehensive Plan, draft and coordinate neighborhood plans as appropriate. Utilizes urban design principles in conducting studies and research. Makes presentations before various boards and committees including the City Commission. The selected candidate should be experienced in negotiating with design professionals, proficient in design concepts and capable in drafting architectural renderings. Must demonstrate ability to work with other disciplines. Min quals: Bachelor's degree in Architecture or Urban Planning and a minimum of five years of experience in urban design required; or an equivalent combination of training and experience. Master's degree in Urban Planning or Architecture with a concentration or specialization in urban design preferred. American Institute of Certified Planners certification preferred. Valid State of Florida driver's license is required, or ability to obtain upon employment. Send resume/application with Social Security number to: Dept of Human Resources, PO Box 3366, West Palm Beach, FL 33402. Accepting applications until position is filled. No faxes please. EOE/AA/DFWP.

SENIOR PLANNER/URBAN DESIGNER

Established architecture and planning firm seeks a Planner/Urban Designer. If you have a degree in either Architecture, Planning or Landscape Architecture, a minimum of 10 years experience showing demonstrated skill in master planning and/or urban design, and/or cultural resource planning, are computer literate, have a passion for sustainable development and consider yourself a team player with a holistic sensibility we would like to hear from you. We are a goal-oriented, entrepreneurial firm and offer an open office environment and opportunity for growth. Please send a cover letter and resume and samples of your work to: Planner, c/o HR Director, PO Box 2045, Portland, OR 97208-2045.

PROJECT MANAGER - ARCHITECTURAL PROJECTS

Under supervision of licensed architects directs, coordinates & exercises functional authority for programming, organizing, controlling & scheduling architectural projects including planning of interior space for commercial, residential, mixed use & for use by the government. Acts as a liaison with clients to obtain & relay relevant information & may attend & assist with client-firm negotiations. Using AutoCAD within a networked environment, prepares schematic designs & accurate drawings for the architect's review of complex projects with multiple technical professional including calculations & layout of dimensions. Researches & suggests materials to be used, makes an analysis of the architectural relationship of various parts of the design, & work out critical construction details of the entire structure. Researches the effectiveness of various materials which might be used in construction & makes recommendations thereupon. Prepares construction documents, & studies & recommends or improves construction bids or proposals. Responsible for site supervision coordination between the different tradesmen or subcontractors' work forces on-site & approval scheduling, costs & related matters. Rqmnts: Bachelor's in Architecture, 2 yrs exp in job offered or in the related occupation as Architect I (entry level). If qualifying under related exp, then related exp must include planning of interior space for commercial & residential uses. Must have exp in using AutoCAD within a networked environment. Two copies of resume, transcripts & diploma required, & evidence of AutoCAD exp. 40 hrs/wk; 8:30am-5:00pm; $33,280/yr. Must have proof of legal authority to be permanently employed in the U.S. Chicago, IL. Send 2 copies of both resume & cover letter to Illinois Dept of Employment Security, 401 S. State St., 7 North, Chicago, IL 60605, Attn: Brenda Kelly, Ref # V-IL 17608-K. An employer paid ad, no calls.

FACULTY POSITIONS VACANT

Drury College the Collegiate University

Director, Hammons School of Architecture

Drury College invites nominations and applications for the position of Director of the Hammons School of Architecture

Drury College offers a bachelor's degree with design as the centerpiece of an architectural education which emphasizes theoretical, practical and liberal arts education. The Hammons School of Architecture is 14 years old and accredited by the National Architecture Accrediting Board. The humane scale of the program (approximately 200 students) and commitment to a careful integration of liberal arts with professional preparation set it apart from other schools.

Drury College is a private institution which maintains a commitment to excellence in career preparation and the liberal arts. There is an emphasis on excellent teaching, low student-faculty ratio, small classes, and opportunities for students to study abroad.

The director reports to the vice president for academic affairs and is fully responsible for the architecture school. The successful candidate will have the appropriate professional credentials and experience in teaching and administration in a school of architecture.

Interested candidates should supply a portfolio and statement of administrative and educational philosophy by December 1:

Dr. Stephen H. Good
Vice President for Academic Affairs
Drury College
900 North Benton Avenue
Springfield, Missouri 65802

TULANE UNIVERSITY
TWO TENURE-TRACK POSITIONS

The School of Architecture at Tulane University invites applications for two full-time, tenure-track appointments. Candidates should have at least a Master of Architecture or equivalent degree in their principal area of expertise, as well as an active record of teaching, scholarly and/or professional work. Position 1: The School is seeking a candidate to be the primary instructor in a revised curriculum in structural technologies. Candidates for this position should be prepared to teach three core lecture/lab courses in structural planning and analysis and either an upper level seminar course or a design studio. Please note this position is available Spring 98. Position 2: The School is seeking a candidate beginning a teaching career with the ability to teach a design studio and one other area of interest/specialization. Specific curriculum needs include: materials and methods, environmental technology, information technology, computer applications, architectural publishing and historic preservation. Please note this position begins Fall 98. Applicants are asked to submit a current curriculum vitae; names, addresses and telephone numbers of at least three academic or professional references; and a letter of interest and intent describing recent professional, research and pedagogical qualifications applicable to this candidacy. Nominations and applications for these positions will be accepted until the position is filled. Screening will begin immediately and the short-list and interview process will begin in December 1997. Rank and salary will be commensurate with experience. Tulane University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are strongly encouraged to apply. Applications and inquiries should be addressed to Professor Michael Crosby, Chair, Faculty Search Committee, Tulane University of Architecture, 303 Richardson Memorial Hall, New Orleans, Louisiana 70118 (t) 504-865-5389 (f) 504-865-8798.

ASSISTANT AND/OR ASSOCIATE PROFESSOR OF ARCHITECTURE, DESIGN AND THEORY

Candidates should have a professional degree in architecture and teaching experience in design studios. Additional research in the areas of graphic and spatial explorations and a capacity to consider architectural theory as "useful knowledge" will be of particular interest to the Search Committee. The School of Architecture invites applications for this faculty position which is available in the fall of 1998. The successful candidate should have demonstrated a record of excellence in and a strong commitment to teaching. Minorities and women are encouraged to apply. Applications in the form of a letter of interest, curriculum vitae, and the names and addresses of three references should be submitted by December 15, 1997. Screening of applicants will continue until an appropriate candidate is selected. Applications should be sent to Peter D. Waldman, Chair, Search Committee, University of Virginia, School of Architecture, Campbell Hall, Charlottesville, Virginia 22903. The University of Virginia is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN COMPUTING AND HISTORY UNIVERSITY OF WASHINGTON

The Department of Architecture at the University of Washington seeks applicants for three full-time faculty positions: Architectural History and Theory, Advanced Computing in Design, and Computing in Design and Practice. For a full description of these positions, see http://www.caup.washington.edu/html/arch/news/positions.html, or make inquiry to: Faculty Search Committee, Dept of Architecture, Box 355720, University of Washington, Seattle, WA 98195, 206-543-4180. The University of Washington is building a culturally diverse faculty and strongly encourages applications from female and minority candidates. The University is an Equal Opportunity/Affirmative Action Employer.

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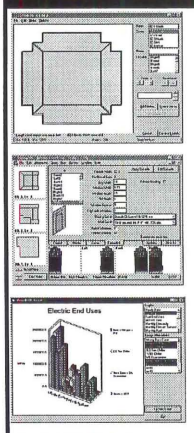
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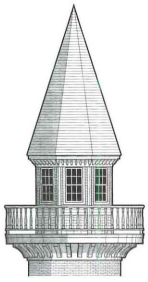
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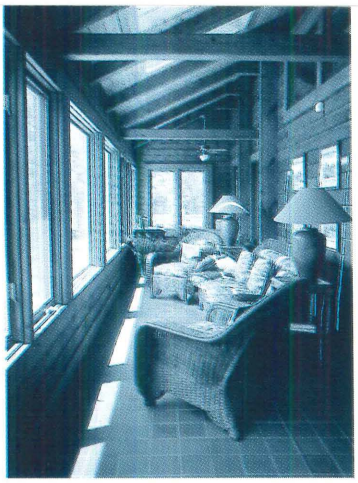
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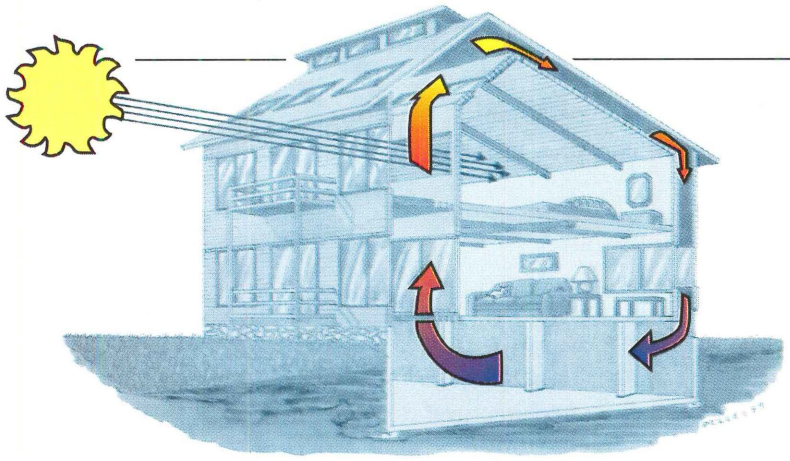
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THE FUTURE A dynamic building is positioned to meet the energy crisis of the next century.

BY JOAN BLATTERMAN



This solar porch is the "thermal battery" powering an Enertia home.



Solar-derived heat circulates itself within the home.

The log cabin of the 21st century? A spacious, 3,000-sq-ft home that generates its own heating and air-conditioning? A structural envelope that can maintain an even, comfortable interior—cool in summer and warm in winter, even in a rugged climate like Kansas—without either furnace or air conditioner?

That's what Michael Sykes claims for his Enertia building system. The Wake Forest, North Carolina, engineer/entrepreneur has developed a sustainable, closed-loop building system made entirely of renewable and recycled materials. The homes are constructed with double walls of solid wood timbers that combine structural and thermal storage characteristics. In contrast to the myriad components of a stick-built home, with nails, vapor barriers and tar paper, synthetic insulation, OSB or other sheathing, tape, siding, and paint, the Enertia home has walls made of squared logs tightly connected with 10-in. Ardox spikes, gaskets, and a connecting spline of recycled polyethelyne.

The wood used, Southern yellow pine, is a resinous species that grows to maturity in 30 years, and is planted at the rate of 3.1 million seedlings per day by timber interests in the southern U.S. A building material created by photosynthesis, pine might be a "perfect" sustainable product, one that cleans the air of pollutants such as carbon dioxide as it grows.

Sykes uses this local resource in a unique way, assembling logs into a dynamic building envelope. Essentially, it is a house within a house, a double-walled building that encourages air movement completely around the structure in an interior cavity.

Solar-heated air moves on its own from an atrium of south-facing windows up over the interior "roof" of the house. As this air cools, it sinks down past the north side, and over the concrete slab of the ground level. The mass of the 6-in.-thick walls and solid-timber rafters gains, holds, and releases heat throughout the night-day cycle, a phenomenon of thermal inertia. The house becomes a living and breathing thing, says Sykes.

Siting is vital

Site parameters—topography, seasonal mean temperatures, the thermal capacity of the glazing selected—are reflected in the design of individual Enertia homes. Large window-walls and clerestories are placed to admit the largest amount of low-level solar radiation in winter, and the least amount of higher-angled summer sun. The foundation level is bathed in sunlight from windows in its partially excavated southern side. Houses must be oriented to a southeast-to-southwest solar "window"; however, the Enertia building is not as sensitive to south as other solar homes. The house depends for its heating on the solar energy falling on it, and for its cooling on the geothermal reserve of the earth below it. The concept is a new approach to home construction, and the structure must be built fresh from the ground up. Components cannot be integrated into or grafted onto an existing home.

Enertia efficiently uses solar power in two ways: passively, receiving the sun's energy, as in a traditional solar home; and actively, using solar heat as the driving force that circulates that energy. Though some configurations may require a small motorized fan or geothermal heat pump, most homes—even very large ones—can derive all needed heating and cooling without any utility-grid power at all.

Architectural aspects

Floor plans of Enertia homes are generous, open, and flexible. The exterior face of the squared logs can be milled to mimic wood sidings such as lapped cedar planks or rough-sawn boards; roofs can be metal, asphalt shingles, shakes—whatever is desired. The heavy timbers used have an ignition point far above that of framing lumber, and the Enertia house can qualify for lower fire-insurance premiums. The company sells plans for homes from 2,000 to over 4,000 sq ft. Custom designs are also available; Enertia homes as large as 6,500 sq ft are being built. Homes may include such design elements as Craftsman-style corbels, kingposts, balconies, and projecting framework that are natural to the timber structure. Once designed, homes are milled to order and the wood is shipped numbered for fast on-site erection on a prepared foundation.

The future of the future house

The inventor anticipates infusing the wood with desiccant salts to further lower the humidity of the interior air, thereby improving the assembly's cooling performance in tropical climates. The firm now uses CAD to translate site-specific criteria—log dimensions, glazed openings, even cut-outs for junction boxes or shelving—into detailed shop drawings. The next step will be computer-aided manufacture, using site criteria to direct the actual milling of parts from a solid block of wood. The architectural and embodied-energy aspects of this "thermal flywheel" are demonstrated in the company's Web site at http://enertia.com. ■